HMK-5000

E Model
UK Model

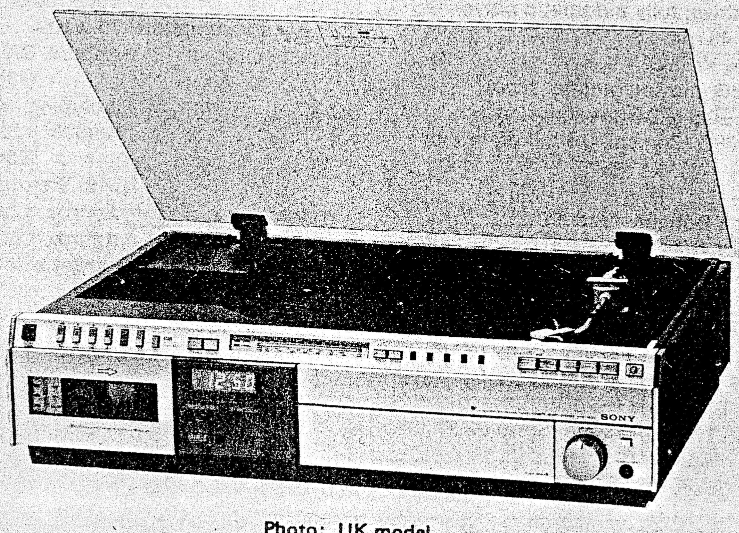


Photo: UK model

'Dolby' and the double-D symbol are the trade marks of Dolby Laboratories. Noise reduction system manufactured under license from Dolby Laboratories.

STEREO MUSIC SYSTEM

SPECIFICATIONS

Amplifier section

Continuous RMS power output

	18 + 18 watts (less than 2% THD, both channels driven simultaneously)
Music power	54 watts
Inputs	MIC: sensitivity 0.775 mV, for low impedance microphones AUX: sensitivity 250 mV at load impedance 50 kilohms
Outputs	REC OUT: level 250 mV at load impedance 10 kilohms SPEAKER: for 8-ohm speakers HEADPHONES: for headphones of 8 ohms or more
Tone controls	BASS: ±10 dB (100 Hz) TREBLE: ±10 dB (10 kHz)

FM tuner section

Antennas	300-ohm balanced terminals
Tuning range	87.5 - 108 MHz
Sensitivity	3.0 μV (S/N = 30 dB)
Harmonic distortion	Mono: 0.3% (at 400 Hz) Stereo: 1.0% (at 400 Hz)
Stereo separation	Better than 35 dB

AM tuner section

E model

Antenna	Built-in ferrite bar antenna and external antenna terminal
Tuning range	531 - 1602 kHz
Sensitivity	50 dB/m, built-in antenna
S/N ratio	50 dB
Harmonic distortion	0.5% (at 400 Hz)

UK model

	MW	LW
Antenna	Built-in ferrite bar antenna and external antenna terminal	
Tuning range	522 Hz - 1602 kHz	155 kHz - 344 kHz
Sensitivity	50 dB/m, built-in antenna	52 dB/m, built-in antenna
S/N ratio	50 dB	
Harmonic distortion	0.5% (at 400 Hz)	

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

SONY®

SERVICE MANUAL

Record player section

Motor	DC servo-controlled
Drive system	Belt drive, fully automatic player
Speed	$33\frac{1}{3}$, 45 rpm
Wow and flutter	0.08% WRMS
Cartridge	VL-38G (moving magnet type)
Tracking force	2.5 g ±0.5 g (2.5 g recommended)
Stylus	ND-138G (Conical, 0.6 mil diamond)

Cassette deck section

Recording system	4-track 2-channel stereo
Frequency response	DOLBY NR OFF • With type IV cassette (Sony METALLIC) 30 - 18,000 Hz 50 - 16,000 Hz (±3 dB) • With type II cassette (Sony CD-α) 30 - 17,000 Hz 50 - 15,000 Hz (±3 dB) • With type I cassette (Sony BHF) 30 - 16,000 Hz 50 - 14,000 Hz (±3 dB)
Wow and flutter	0.08% WRMS
Signal-to-noise ratio	DOLBY NR OFF With type IV cassette (Sony METALLIC) 58 dB at peak level DOLBY NR ON improved by 5 dB at 1 kHz, 10 dB above 5 kHz
Total harmonic distortion	1.0% (with Sony METALLIC cassette)

General

Power requirements	110 - 120 or 220 - 240 V ac adjustable, 50/60 Hz
Power consumption	70 watts
Dimensions	Approx. 595 × 150 × 470 mm (w/h/d) ($23\frac{1}{2}$ × 6 × $18\frac{1}{2}$ inches) including projecting parts and controls Approx. 595 × 450 × 470 mm (w/h/d) ($23\frac{1}{2}$ × $17\frac{3}{4}$ × $18\frac{1}{2}$ inches) with the dust cover fully opened
Weight	Approx. 12.5 kg (27 lb 9 oz) net Approx. 14.3 kg (31 lb 9 oz) in shipping carton without speakers

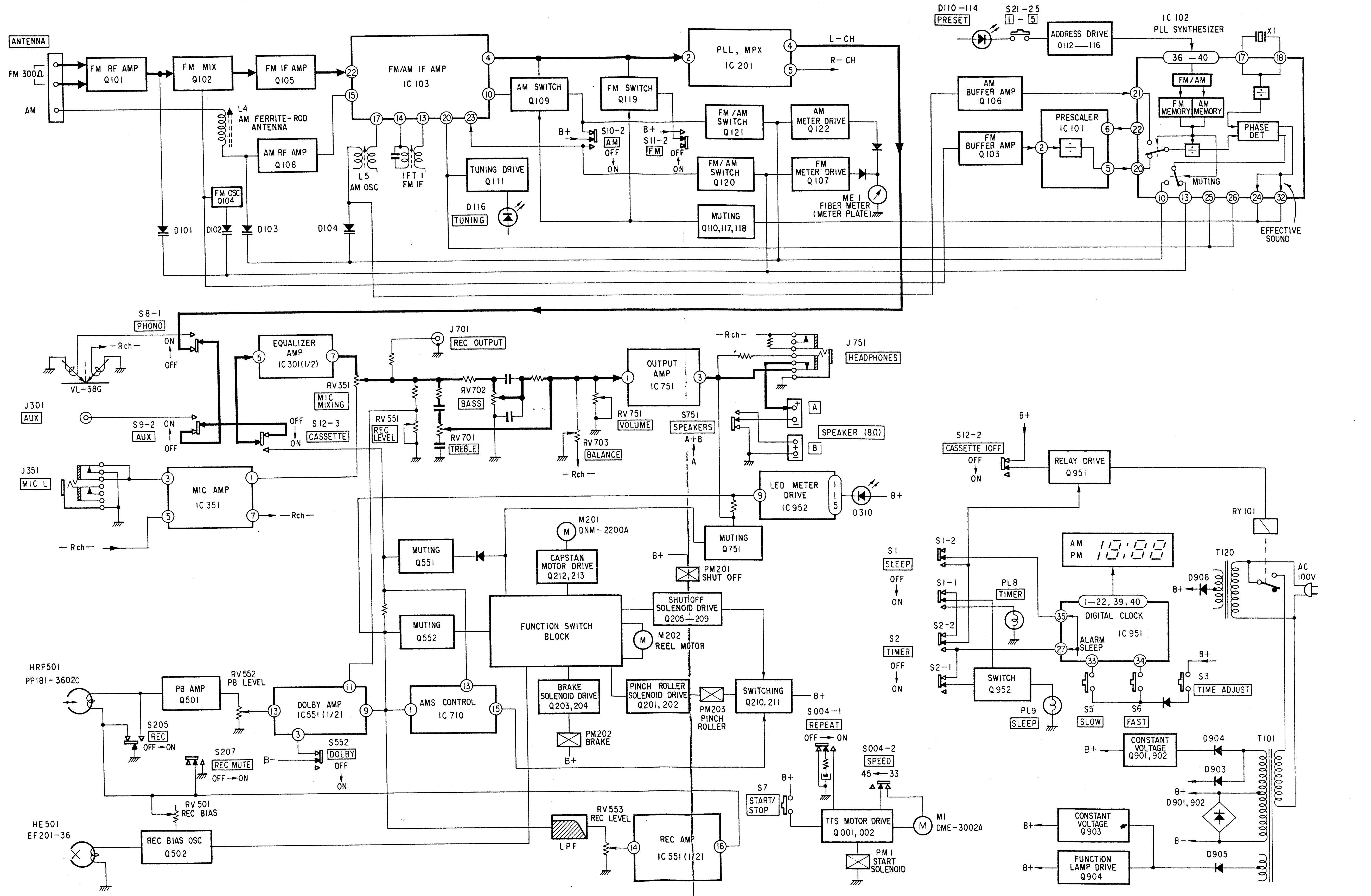
TABLE OF CONTENTS

Section *Title* *Page*

1. OUTLINE
   - 1-1. Block Diagram for E model 3
   - 1-2. Block Diagram for UK model 5
2. DISASSEMBLY 7
3. ADJUSTMENTS
   - 3-1. Mechanical Adjustments 11
   - 3-2. Electrical Adjustments 15
     - 3-2-1. Adjustments for E model 17
     - 3-2-2. Adjustments for UK model 37
4. DIAGRAMS
   - 4-1. Diagrams for E model 21
   - 4-2. Diagrams for UK model 41
5. EXPLODED VIEWS 57
6. ELECTRICAL PARTS LIST 66

SECTION 1
OUTLINE

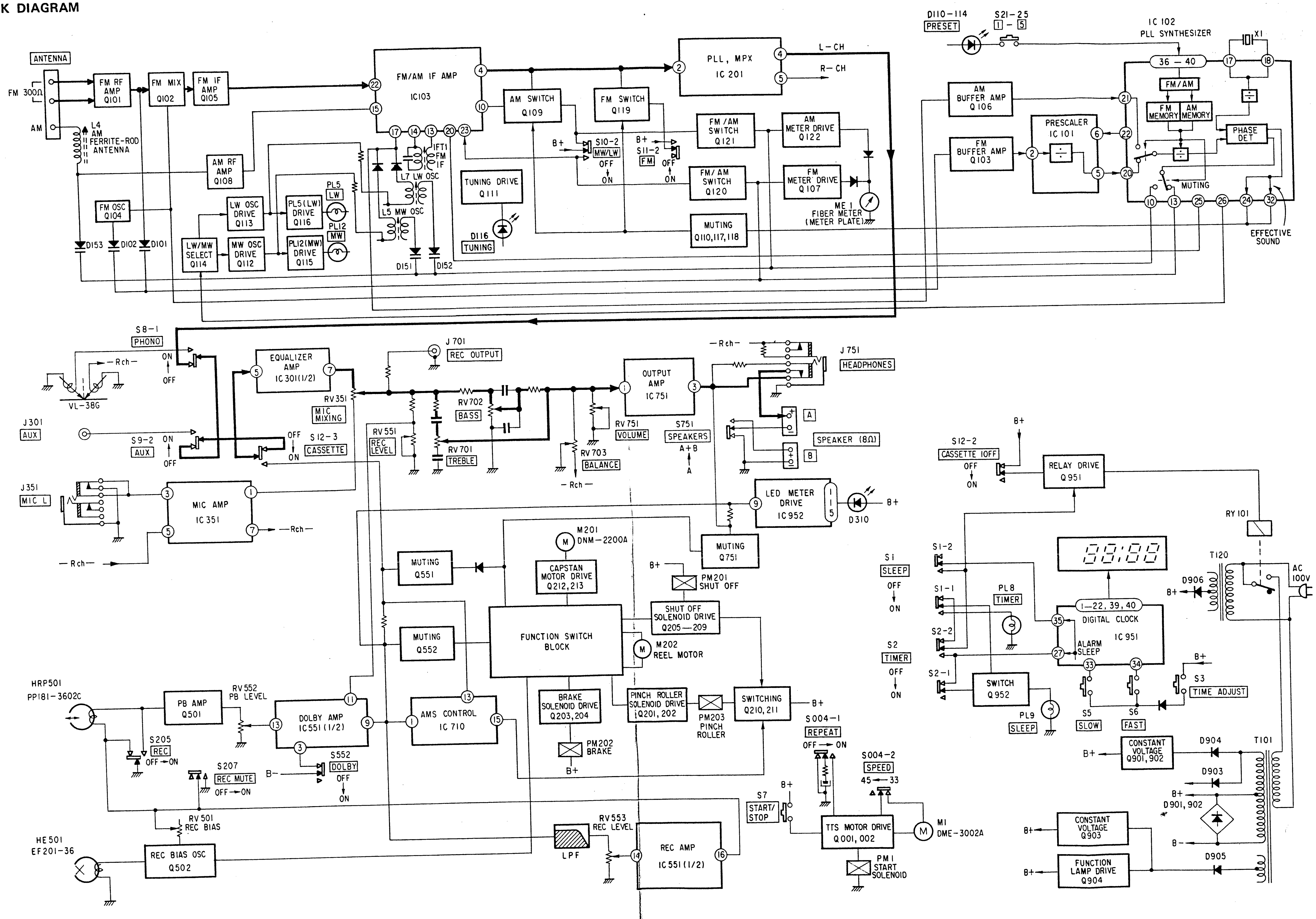
1-1. BLOCK DIAGRAM


ANTENNA
FM 300Ω
AM
FM RF AMP Q101
FM MIX Q102
FM IF AMP Q105
FM/AM IF AMP IC 103
L4 AM FERRITE-ROD ANTENNA
AM RF AMP Q108
FM OSC Q104
L5 AM OSC
IFT 1 FM IF
D101
D102
D103
D104
AM SWITCH Q109
FM SWITCH Q119
PLL, MPX IC 201
L-CH
R-CH
B+
S10-2 AM OFF ON
S11-2 FM OFF ON
FM/AM SWITCH Q121
FM/AM SWITCH Q120
AM METER DRIVE Q122
FM METER DRIVE Q107
TUNING DRIVE Q111
D116 TUNING
MUTING Q110, 117, 118
ME 1 FIBER METER (METER PLATE)
D110-114 PRESET
S21-25 1 - 5
ADDRESS DRIVE Q112—116
IC 102 PLL SYNTHESIZER
X1
36 - 40
FM/AM
FM MEMORY
AM MEMORY
PHASE DET
AM BUFFER AMP Q106
FM BUFFER AMP Q103
PRESCALER IC 101
MUTING
EFFECTIVE SOUND
S8-1 PHONO
ON OFF
-Rch-
VL-38G
J301 AUX
S9-2 AUX ON OFF
EQUALIZER AMP IC 301(1/2)
RV351 MIC MIXING
S12-3 CASSETTE OFF ON
J701 REC OUTPUT
RV551 REC LEVEL
RV702 BASS
RV701 TREBLE
RV703 BALANCE
- Rch -
RV751 VOLUME
OUTPUT AMP IC 751
S751 SPEAKERS A+B A
J751 HEADPHONES
SPEAKER (8Ω)
A
B
J351 MIC L
MIC AMP IC 351
- Rch -
LED METER DRIVE IC 952
D310
B+
MUTING Q751
M201 DNM-2200A
CAPSTAN MOTOR DRIVE Q212, 213
PM201 SHUT OFF
MUTING Q551
MUTING Q552
FUNCTION SWITCH BLOCK
SHUTOFF SOLENOID DRIVE Q205-209
M202 REEL MOTOR
HRP501 PP181-3602C
PB AMP Q501
RV552 PB LEVEL
DOLBY AMP IC551 (1/2)
AMS CONTROL IC 710
S205 REC OFF→ON
S207 REC MUTE OFF→ON
S552 DOLBY OFF ON
B-
BRAKE SOLENOID DRIVE Q203, 204
PM202 BRAKE
PINCH ROLLER SOLENOID DRIVE Q201, 202
PM203 PINCH ROLLER
SWITCHING Q210, 211
RV501 REC BIAS
HE501 EF201-36
REC BIAS OSC Q502
LPF
RV553 REC LEVEL
REC AMP IC 551 (1/2)
S004-1 REPEAT OFF→ON
S004-2 SPEED 45→33
S7 START/STOP
TTS MOTOR DRIVE Q001, 002
M1 OME-3002A
PM1 START SOLENOID
S12-2 CASSETTE 1OFF OFF ON
RELAY DRIVE Q951
RY101
T120
D906
AC 100V
S1 SLEEP OFF ON
S2 TIMER OFF ON
S1-2
S1-1
S2-2
S2-1
PL8 TIMER
PL9 SLEEP
AM PM 18:88
1-22, 39, 40 DIGITAL CLOCK IC 951
ALARM SLEEP
SWITCH Q952
S5 SLOW
S6 FAST
S3 TIME ADJUST
CONSTANT VOLTAGE Q901, 902
D904
T101
D903
D901, 902
CONSTANT VOLTAGE Q903
FUNCTION LAMP DRIVE Q904
D905
M

UK model

UK model

1-2. BLOCK DIAGRAM


ANTENNA
FM 300Ω
AM
L4 AM FERRITE-ROD ANTENNA
FM RF AMP Q101
FM MIX Q102
FM IF AMP Q105
FM/AM IF AMP IC103
AM RF AMP Q108
FM OSC Q104
D153
D102
D101
LW/MW SELECT Q114
LW OSC DRIVE Q113
MW OSC DRIVE Q112
PL5(LW) DRIVE Q116
PL12(MW) DRIVE Q115
PL5 LW
PL12 MW
IFT1 FM IF
L7 LW OSC
L5 MW OSC
D151
D152
TUNING DRIVE Q111
D116 TUNING
AM SWITCH Q109
FM SWITCH Q119
B+
S10-2 MW/LW OFF ON
S11-2 FM OFF ON
FM/AM SWITCH Q121
FM/AM SWITCH Q120
MUTING Q110,117,118
PLL, MPX IC 201
L-CH
R-CH
AM METER DRIVE Q122
FM METER DRIVE Q107
ME 1 FIBER METER (METER PLATE)
D110-114 PRESET
S21-25 1 - 5
IC 102 PLL SYNTHESIZER
X1
36 - 40
AM BUFFER AMP Q106
FM BUFFER AMP Q103
PRESCALER IC 101
FM/AM
FM MEMORY
AM MEMORY
PHASE DET
MUTING
EFFECTIVE SOUND
S8-1 PHONO
ON OFF
VL-38G
- Rch -
EQUALIZER AMP IC 301(1/2)
J 701 REC OUTPUT
RV351 MIC MIXING
RV702 BASS
RV701 TREBLE
RV551 REC LEVEL
OUTPUT AMP IC 751
RV751 VOLUME
RV 703 BALANCE
- Rch -
S751 SPEAKERS A+B A
J 751 HEADPHONES
A
B
SPEAKER (8Ω)
J301 AUX
S9-2 AUX ON OFF
S12-3 CASSETTE OFF ON
J351 MIC L
MIC AMP IC 351
- Rch -
LED METER DRIVE IC952
D310
B+
MUTING Q751
M201 DNM-2200A
CAPSTAN MOTOR DRIVE Q212,213
PM201 SHUT OFF
SHUT OFF SOLENOID DRIVE Q205-209
MUTING Q551
MUTING Q552
FUNCTION SWITCH BLOCK
M202 REEL MOTOR
BRAKE SOLENOID DRIVE Q203,204
PM202 BRAKE
PINCH ROLLER SOLENOID DRIVE Q201, 202
PM203 PINCH ROLLER
SWITCHING Q210, 211
HRP501 PP181-3602C
PB AMP Q501
RV552 PB LEVEL
DOLBY AMP IC551 (1/2)
AMS CONTROL IC 710
S205 REC OFF - ON
S207 REC MUTE OFF - ON
S552 DOLBY OFF ON
B-
RV 501 REC BIAS
HE501 EF201-36
REC BIAS OSC Q502
LPF
RV553 REC LEVEL
REC AMP IC 551 (1/2)
S004-1 REPEAT OFF - ON
S004-2 SPEED 45 - 33
S7 START/STOP
TTS MOTOR DRIVE Q001, 002
M1 DME-3002A
PM1 START SOLENOID
S12-2 CASSETTE 10FF OFF ON
RELAY DRIVE Q951
RY 101
T120
D906
AC 100V
S1 SLEEP OFF ON
S1-2
S1-1
S2-2
S2-1
S2 TIMER OFF ON
PL8 TIMER
PL9 SLEEP
SWITCH Q952
88:88
1-22, 39, 40
DIGITAL CLOCK IC 951
ALARM SLEEP
S5 SLOW
S6 FAST
S3 TIME ADJUST
CONSTANT VOLTAGE Q901, 902
D904
D903
D901, 902
D905
T101
CONSTANT VOLTAGE Q903
FUNCTION LAMP DRIVE Q904

SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

[Dust Cover]

❶ ❷

[Cassette Lid Removal]

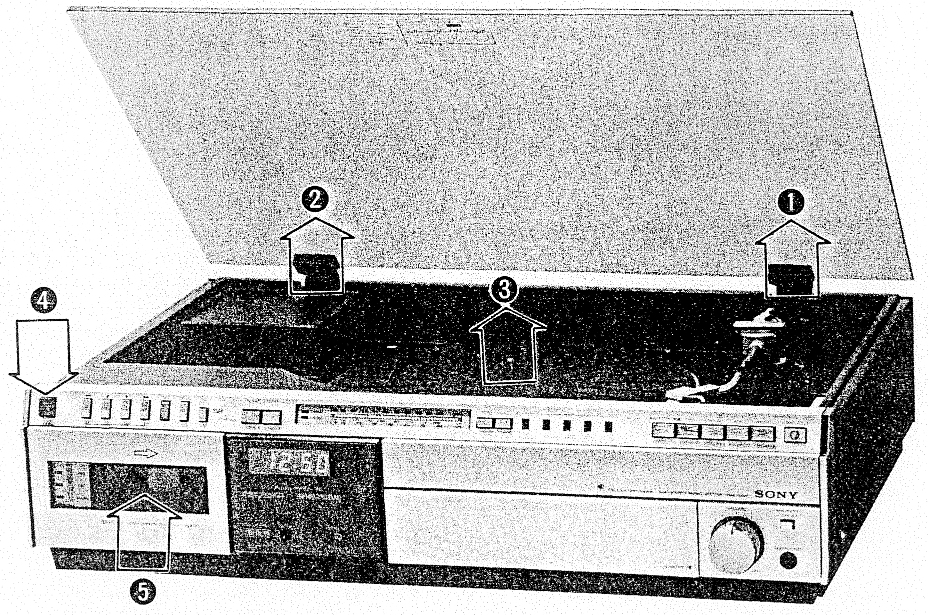
❹ Press the EJECT button.
❺

[Player Section Removal]

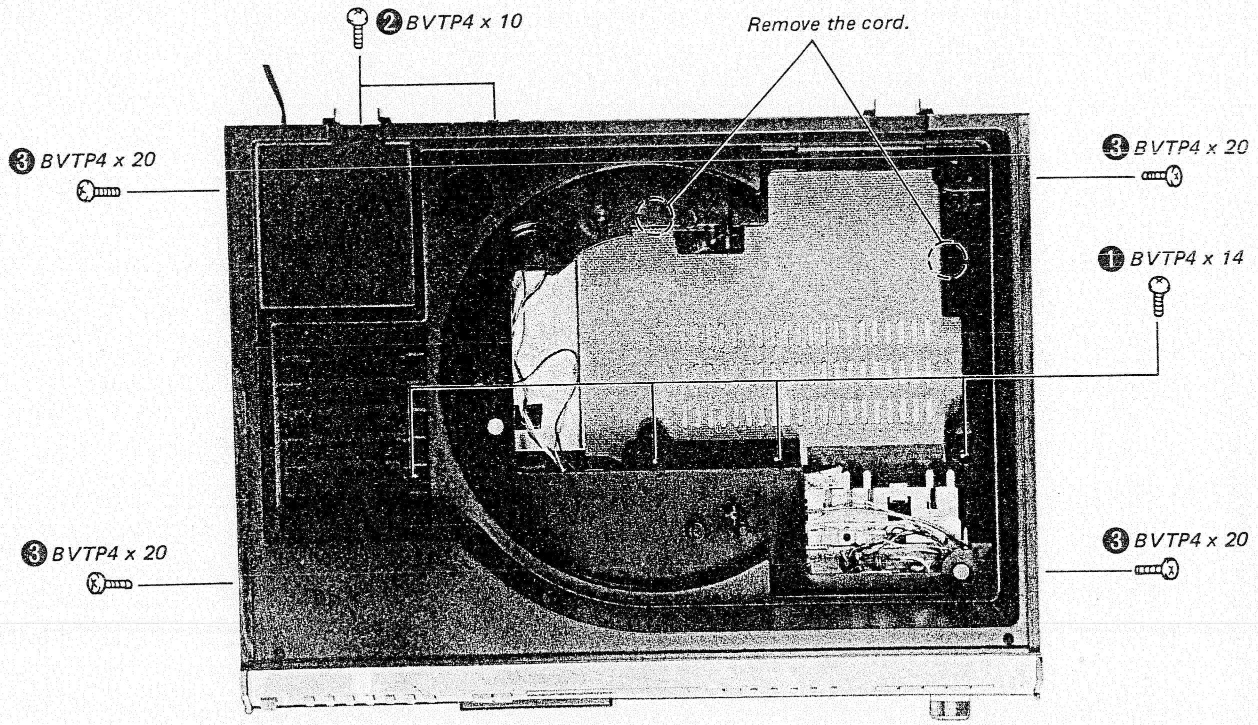
❸

[Turntable Sheet· Turntable Removal]

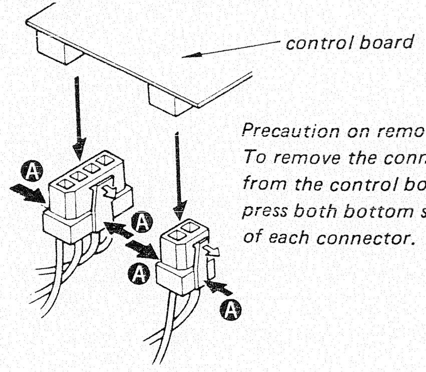
❸ (Remove the belt.)



[Cabinet Removal]

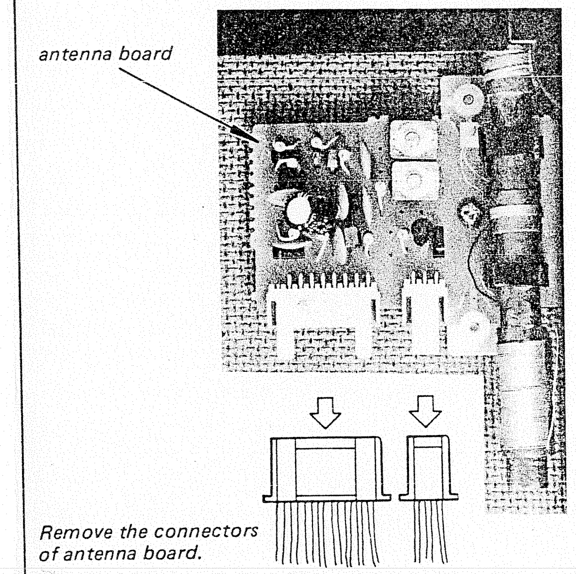

❷ BVTP4 x 10
Remove the cord.
❸ BVTP4 x 20
❸ BVTP4 x 20
❶ BVTP4 x 14
❸ BVTP4 x 20
❸ BVTP4 x 20

RECORD PLAYER SECTION


control board
Ⓐ
Ⓐ
Ⓐ
Ⓐ

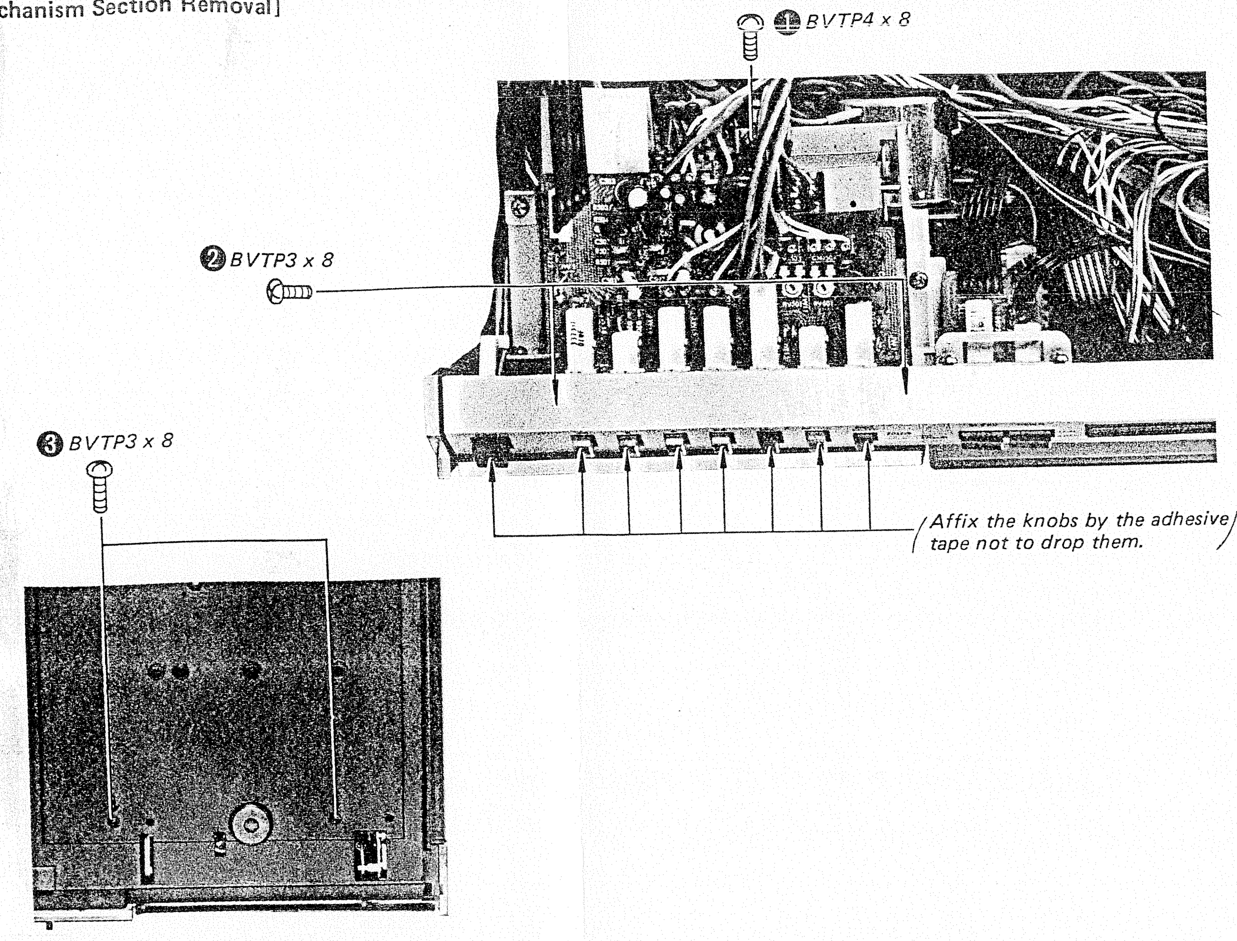
Precaution on removal
To remove the connectors from the control board, press both bottom sides (Ⓐ) of each connector.

UK model


antenna board

Remove the connectors of antenna board.

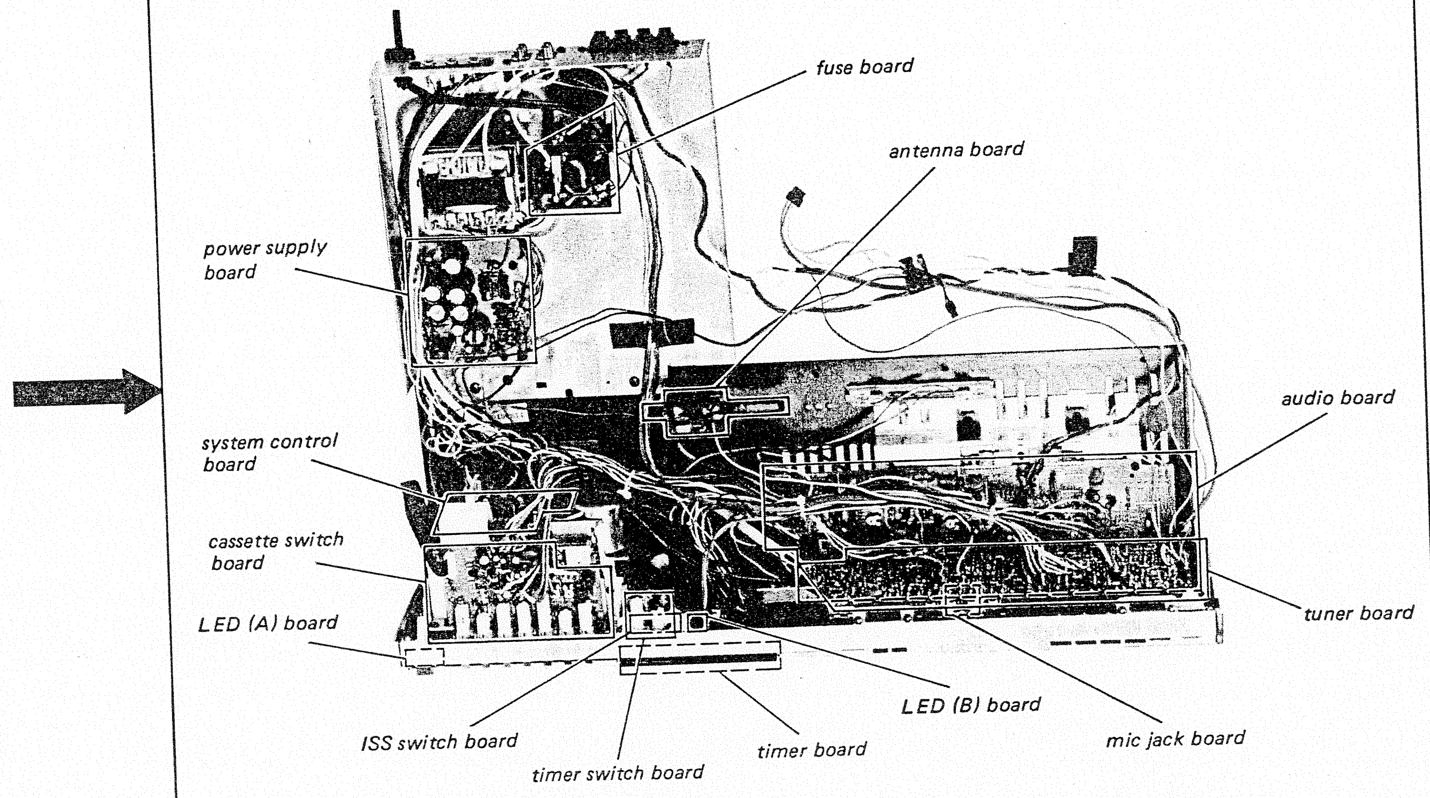
[Mechanism Section Removal]


❶ BVTP4 x 8
❷ BVTP3 x 8
❸ BVTP3 x 8

(Affix the knobs by the adhesive tape not to drop them.)

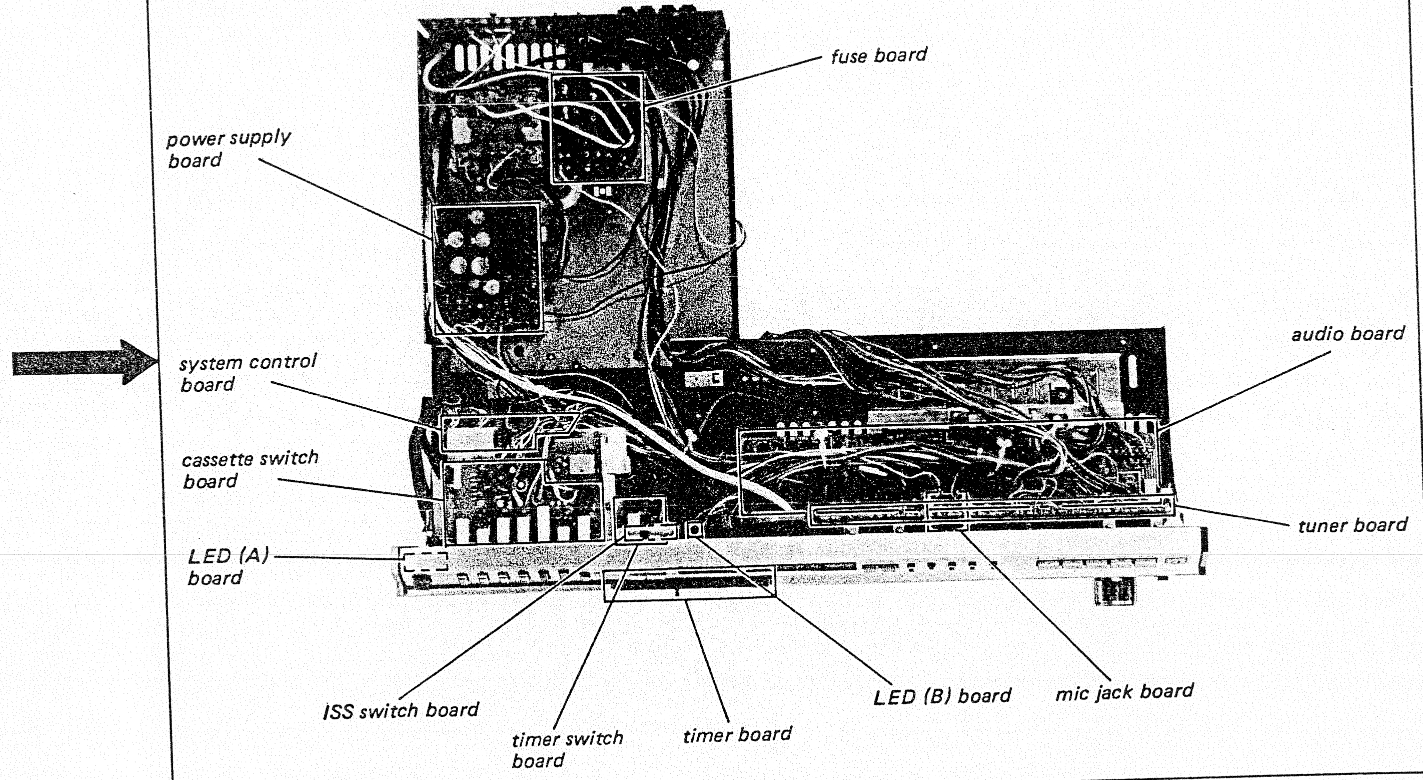
E model

[Printed Circuit Boards]

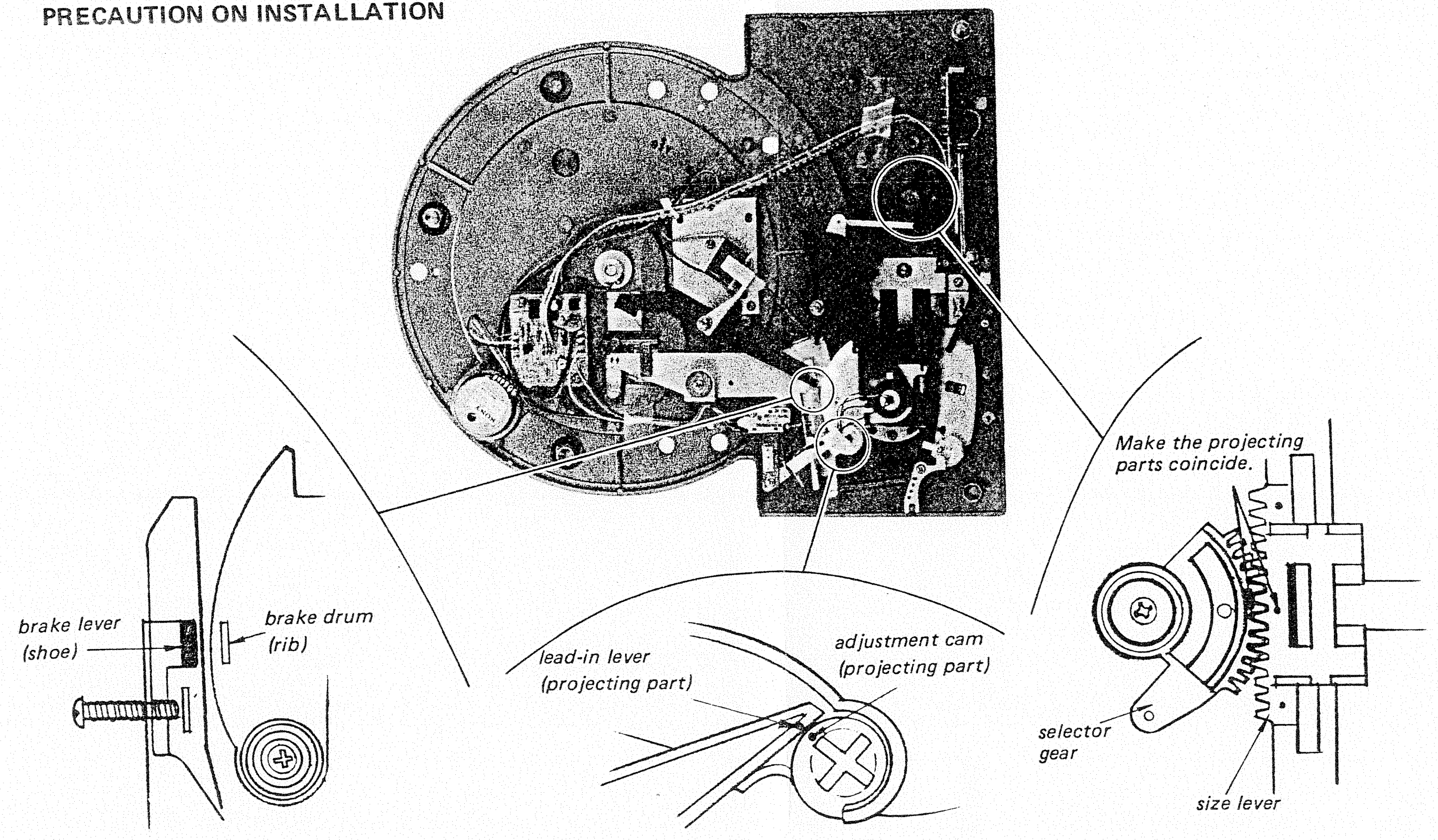

fuse board
antenna board
power supply board
audio board
system control board
cassette switch board
LED (A) board
tuner board
LED (B) board
mic jack board
ISS switch board
timer board
timer switch board

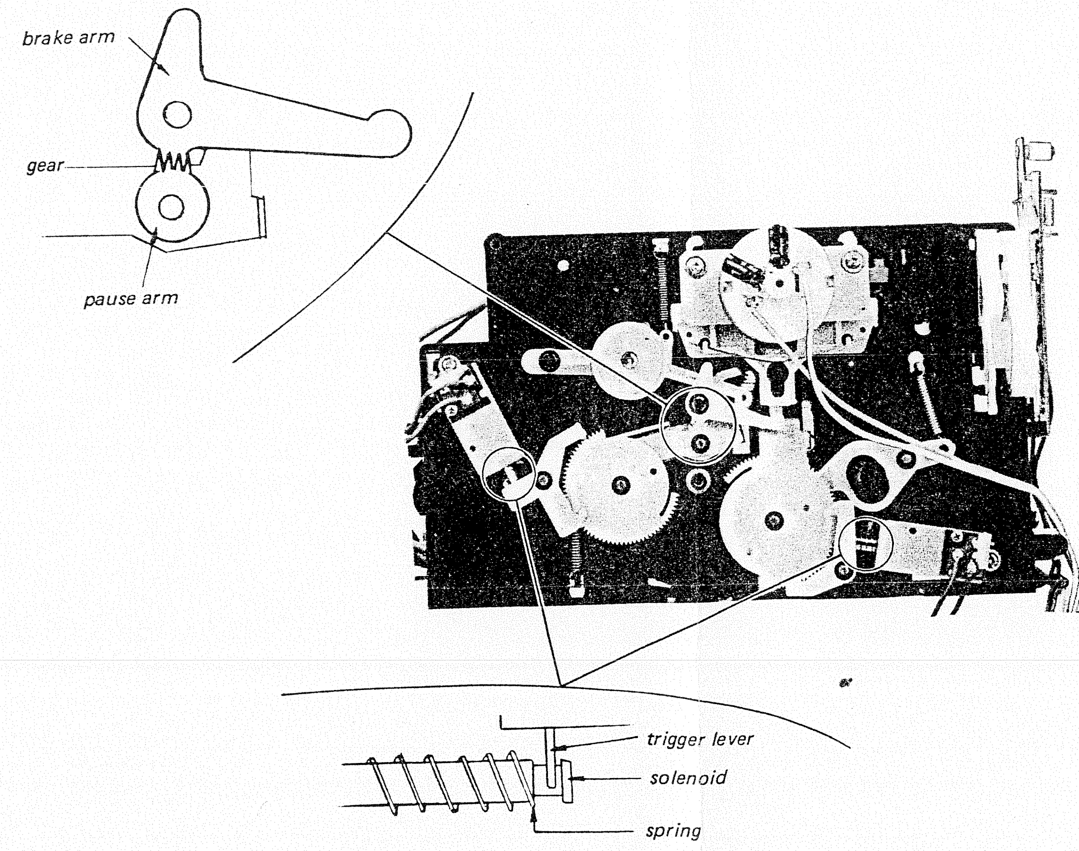
UK model

[Printed Circuit Boards]


fuse board
power supply board
audio board
system control board
cassette switch board
tuner board
LED (A) board
ISS switch board
LED (B) board
mic jack board
timer switch board
timer board

PRECAUTION ON INSTALLATION


Make the projecting parts coincide.
brake lever (shoe)
brake drum (rib)
lead-in lever (projecting part)
adjustment cam (projecting part)
selector gear
size lever


brake arm
gear
pause arm
trigger lever
solenoid
spring

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

CASSETTE RECORDER SECTION

PRECAUTION

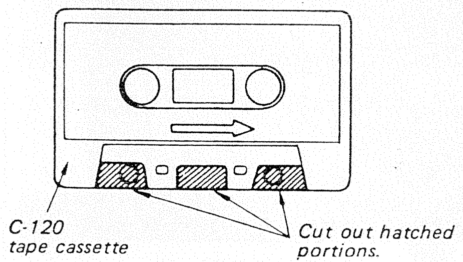
1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

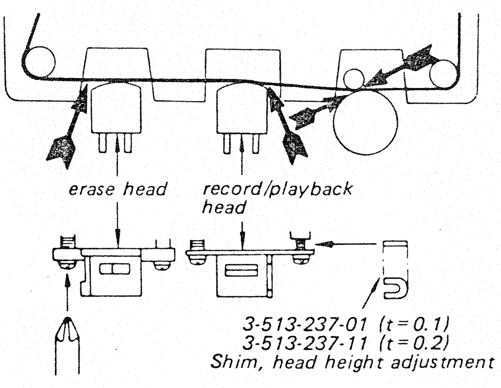
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Head Height Adjustment

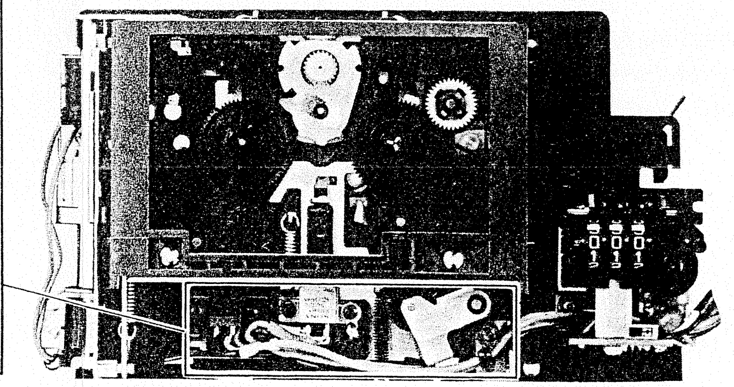
1. Prepare an adjustment cassette as shown below.


C-120
tape cassette
Cut out hatched portions.

2. In record mode and viewing from the front. adjust the head heights to eliminate tape curl and tape twist at portions shown by the arrow.


erase head
record/playback head
3-513-237-01 (t=0.1)
3-513-237-11 (t=0.2)
Shim, head height adjustment

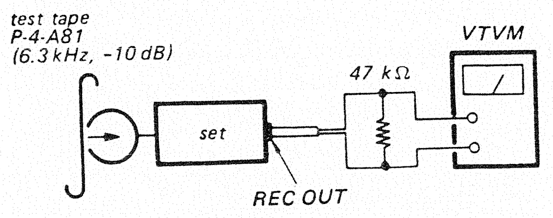
Forward Torque	32 ~ 60 g·cm (0.45 ~ 0.83 oz·inch)
Forward Back Tension Torque	2 ~ 5 g·cm (0.03 ~ 0.07 oz·inch)
Fast Forward·Rewind Torque	70 ~ 140 g·cm (0.97 ~ 1.95 oz·inch)
Pinch Roller Pressure	200 ~ 400 g (7 ~ 14 oz)



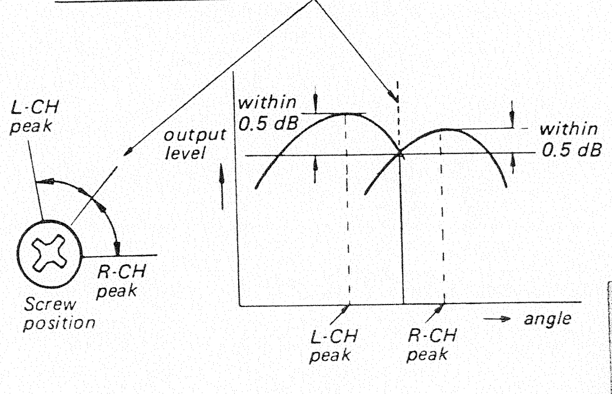
Record/playback Head Azimuth Adjustment

Procedure:

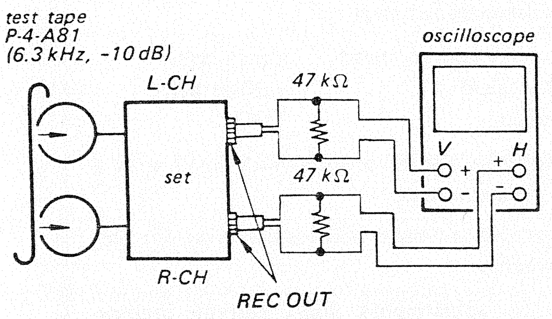
1. Mode: playback

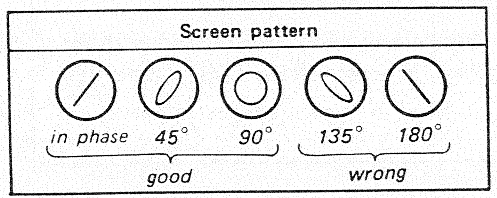

test tape
P-4-A81
(6.3 kHz, -10 dB)
VTVM
47 kΩ
set
REC OUT

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw where both of output levels match together within 0.5 dB.

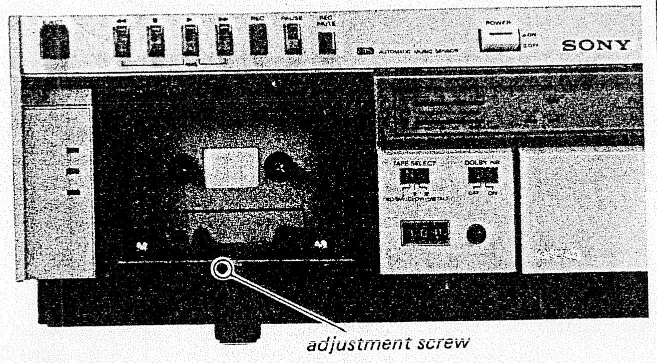


3. Phase Check
   Mode: playback


test tape
P-4-A81
(6.3 kHz, -10 dB)
oscilloscope
L-CH
47 kΩ
set
47 kΩ
V
H
+
-
+
-
R-CH
REC OUT


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

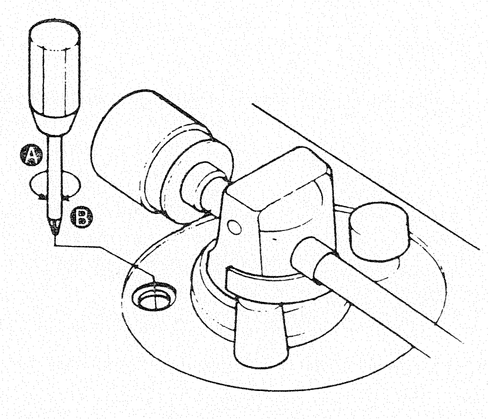
Adjustment Location:


SONY
adjustment screw

RECORD PLAYER SECTION

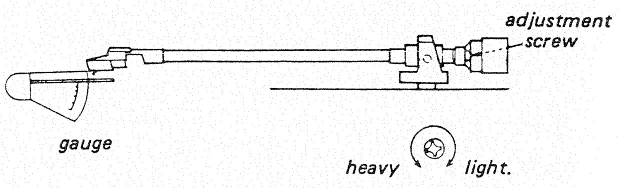
Sylus Drop-point Adjustment

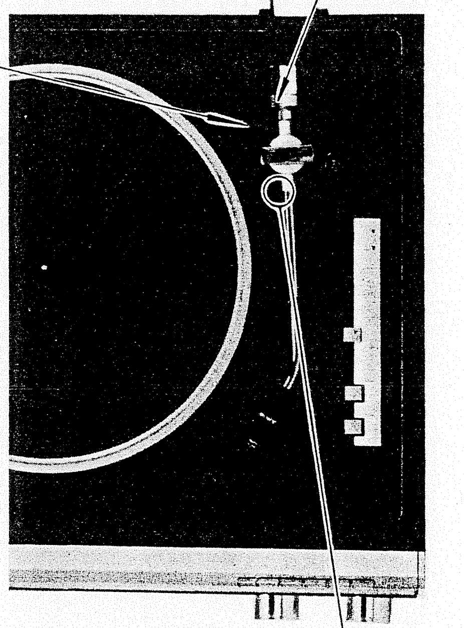
1. Set the record size selector lever to the 30 (12") position.
2. Push the START/STOP button and make sure that the stylus drops on the specified point of the test record (YFSC-16).
3. If necessary, insert the screwdriver into the hole and adjust the drop-point by turning the adjustment cam.
   To change the drop-point inward:
   counterclockwise Ⓑ
   To change the drop-point outward:
   clockwise Ⓐ



Stylus Pressure Adjustment

Bring the stylus tip at the same height with the record surface. Adjust the adjustment screw to obtain 2.5 ±0.3g reading on gauge.

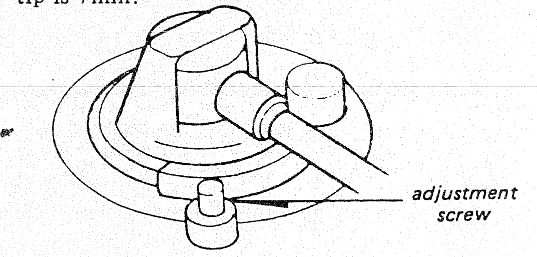

adjustment
screw
gauge
heavy
light.



Stylus Height Adjustment

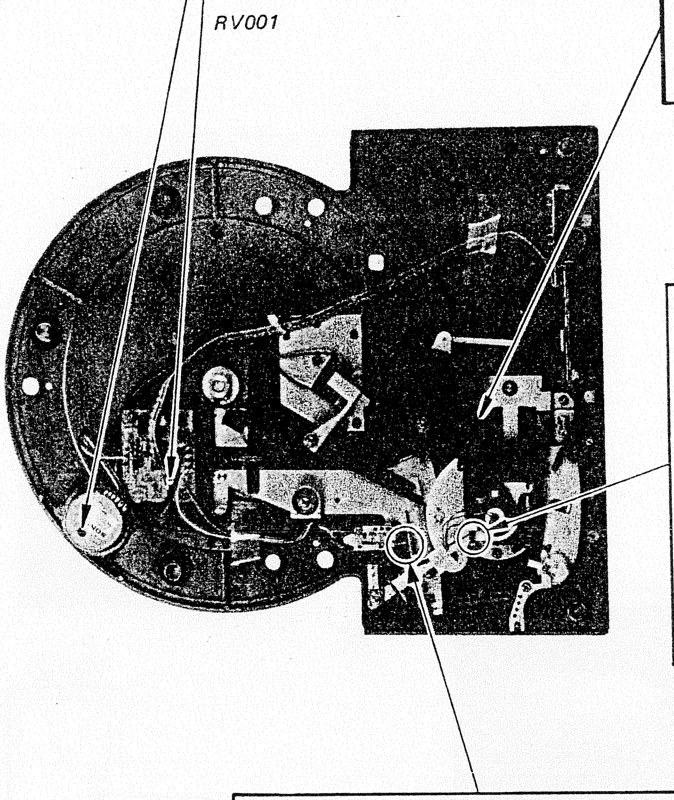
(Continued on page 14)

1. Automatic operation
   Bring the tonearm above the record.
   Loosen the adjustment screw so that the clearance between the record surface and the stylus tip is 7mm.


adjustment
screw

Speed Adjustment

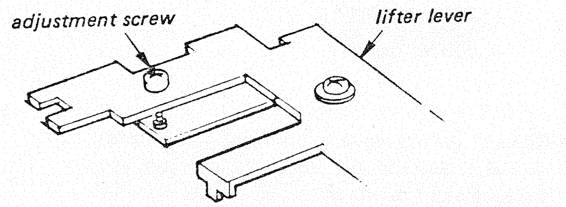
1. Playback the side A-2 (3 kHz) of the test record (YFSC-16).
2. Adjust the adjustable resistor in the motor so that the output frequency is 3,030 $^{+15}_{-0}$ Hz at 33¹/₃ rpm.
3. Adjust RV001 so that the output frequency is 4,090 $^{+20}_{-0}$ Hz at 45 rpm.



Stylus Height Adjustment (Continued from page 13)

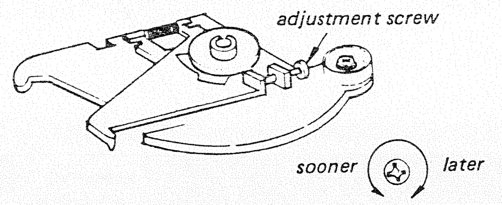
2. Manual operation

1. Set the function lever to MAN position.
2. Rotate the turntable by pressing the START/STOP button.
3. When the cueing lever is set to UP (⯆) position, adjust the adjustment screw so that the distance between the record surface and the stylus tip is 7mm.


adjustment screw
lifter lever

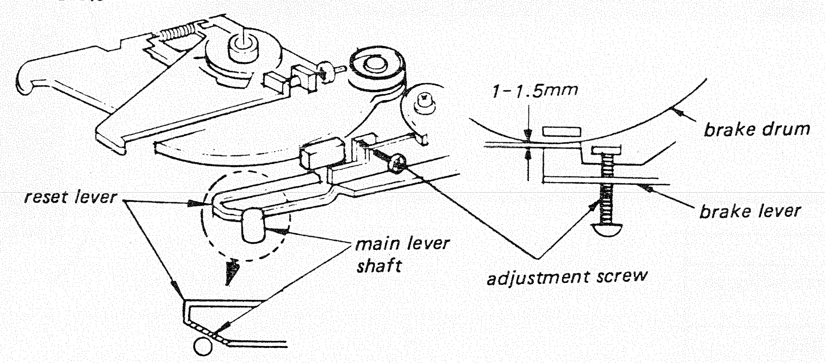
Automatic Return Position Adjustment

1. Set the stylus on the groove of the test record (YFSB-6).
2. Turn the adjustment screw so that the tonearm starts to return at count of 15-17.


adjustment screw
sooner
later

Brake Drum Position Adjustment

1. Rotate the drive gear so that the main lever shaft comes to the position marked with shading of the reset lever.
2. Turn the adjustment screw so that the clearance between the brake drum and the brake lever is 1-1.5mm as shown below.


1-1.5mm
brake drum
reset lever
brake lever
main lever shaft
adjustment screw

3-2. ELECTRICAL ADJUSTMENTS

CASSETTE RECORDER SECTION

Note: The adjustment should be performed in the numerical order given.
The adjustments should be performed for both L-CH and R-CH.

TAPE SELECT switch settings in accordance with tape used are as follows.

TAPE	TAPE SELECT
CS–10	TYPE I
CS–25	TYPE II
CS–40	TYPE IV

- Standard Record:

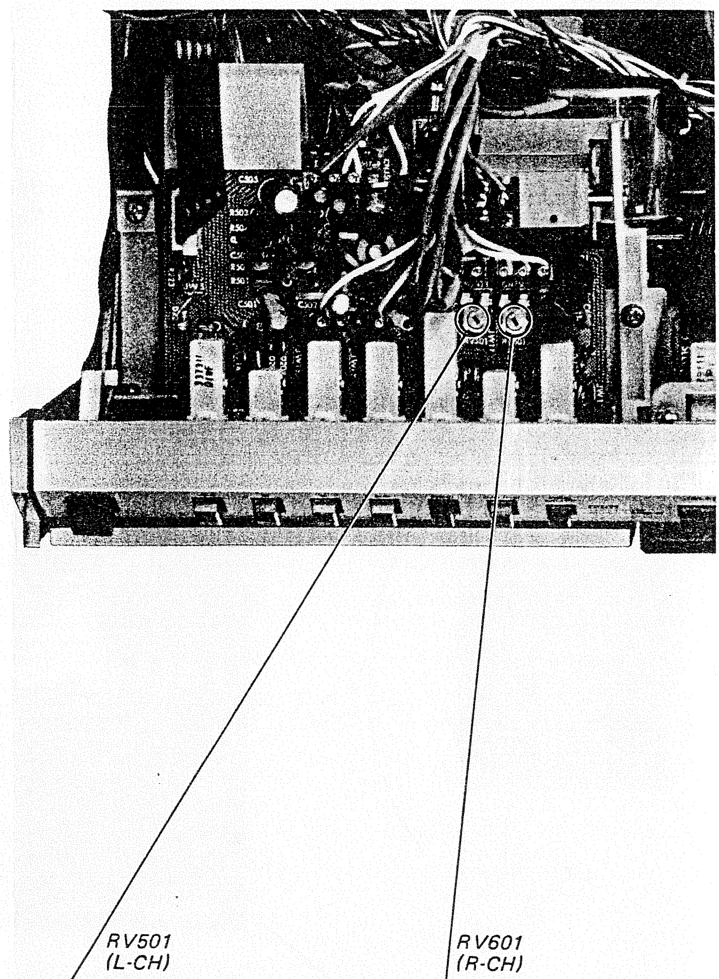
  Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

Standard Input Level

	MIC	AUX
source impedance	600Ω	50kΩ
input level	0.77mV (–60dB)	25mV (–30dB)

Standard Output Level

	REC OUT
load impedance	10 kΩ
output level	0.14V (–15dB)

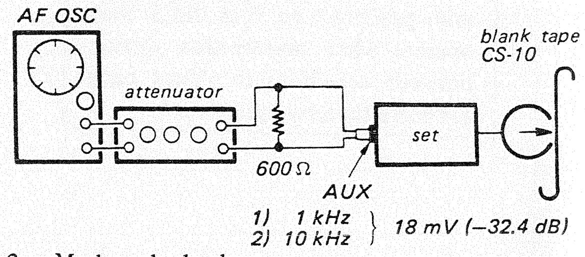

RV501
(L-CH)
RV601
(R-CH)

Record Bias Adjustment

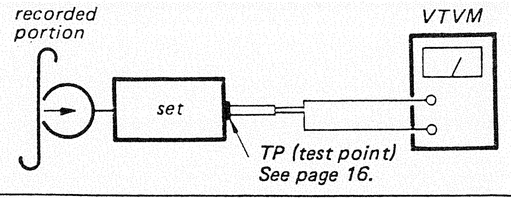
Adjust RV501 and RV601 so that the test point level is 0.45 V (–5.2 dB).

Procedure

1. Mode: standard record (See above.)


AF OSC
attenuator
600Ω
AUX
set
blank tape
CS-10
1) 1 kHz
2) 10 kHz
18 mV (–32.4 dB)

2. Mode: playback


recorded portion
set
VTVM
TP (test point)
See page 16.

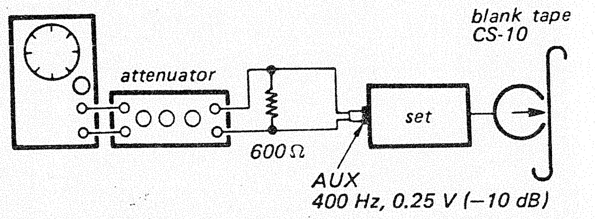
Specification

Playback level difference between 1 kHz and 10 kHz . . . . . . –0.5 ± 0.5 dB.

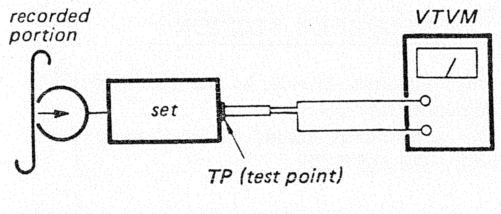
Record Level Adjustment

Setting
TAPE SELECT switch: TYPE I

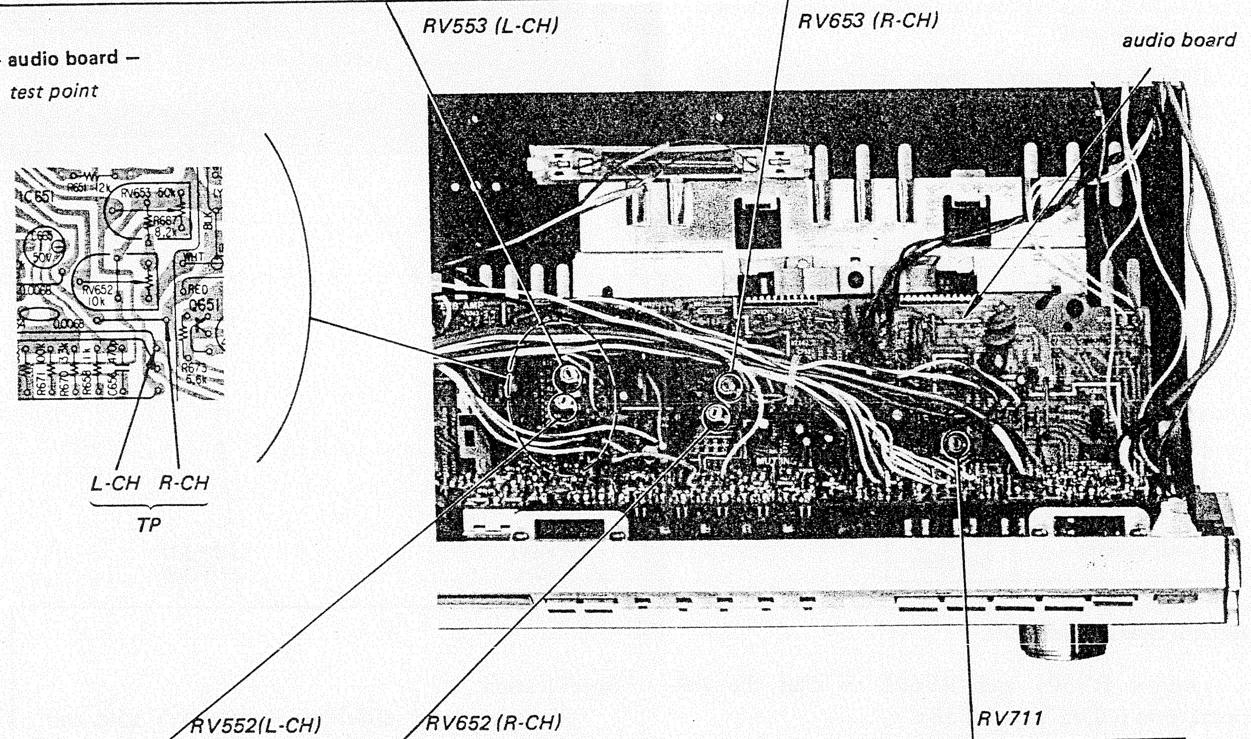
Procedure
1. Mode: standard record (See page 15.)


attenuator
600Ω
set
blank tape
CS-10
AUX
400 Hz, 0.25 V (–10 dB)

2. Mode: playback


recorded portion
VTVM
set
TP (test point)

Specification
Test Point Level: 0.44 – 0.47 V (–5.2 ± 0.2 dB)

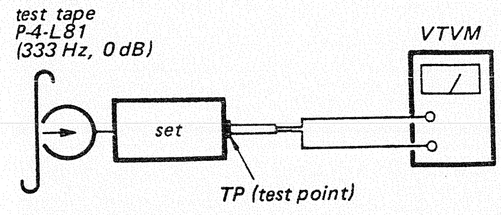

RV553 (L-CH)
RV653 (R-CH)
audio board
– audio board –
test point
L-CH
R-CH
TP
RV552(L-CH)
RV652 (R-CH)
RV711

Playback Level Adjustment

Setting:

TAPE SELECT switch: TYPE I

Procedure:


test tape
P-4-L81
(333 Hz, 0 dB)
VTVM
set
TP (test point)

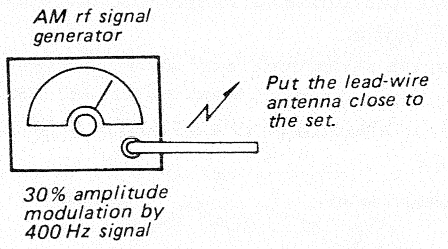
Specification
0.8 – 0.83 V (0.32 ± 0.2 dB)

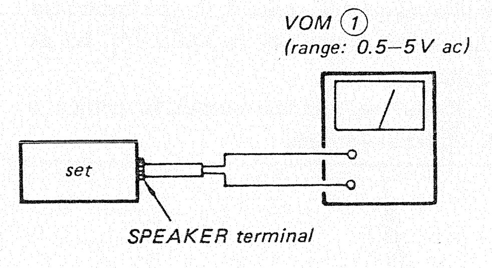
AMS Adjustment

Adjust RV711 (nearly mechanical mid position) so that AMS may operate when no-recorded portion between selections is played back for more than two seconds.

3-2-1. Adjustments for E model (Adjustments for UK model: See page 37.)

AM SECTION

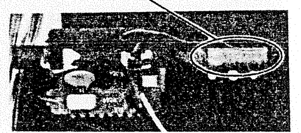

AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal

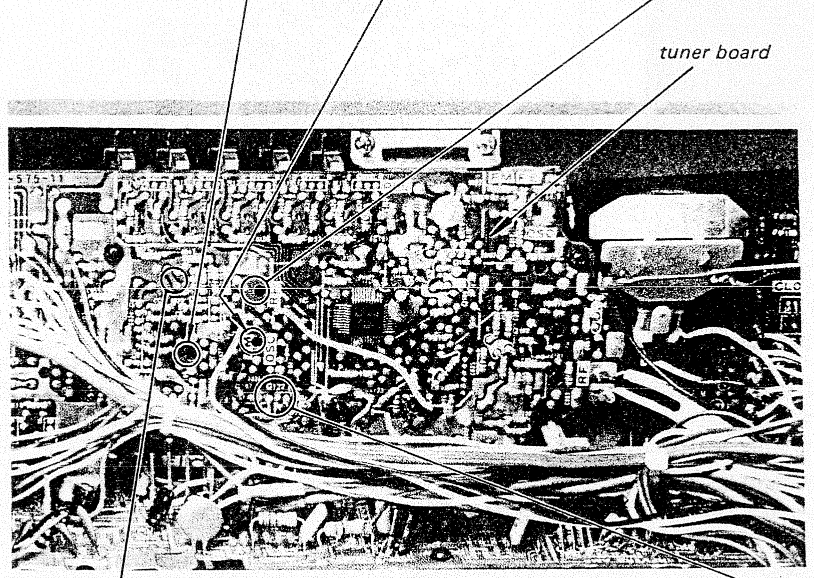

VOM ①
(range: 0.5–5 V ac)
set
SPEAKER terminal

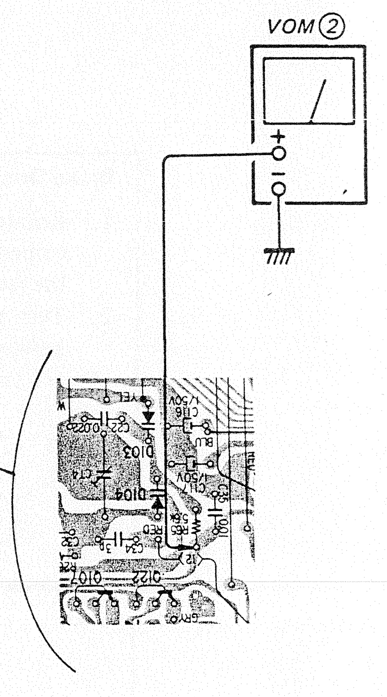
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM FREQUENCY COVERAGE ADJUSTMENT		
	504 kHz	1620 kHz
VOM② reading	1.5 V	9 V
adjustment part	L5	CT4

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VOM ①.	
1404 kHz	603 kHz
CT3	L4



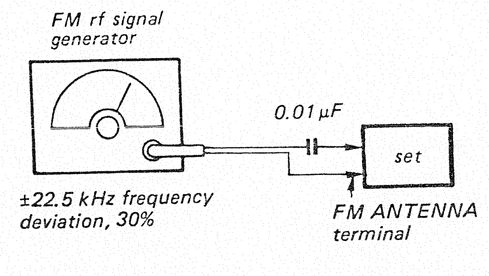

tuner board

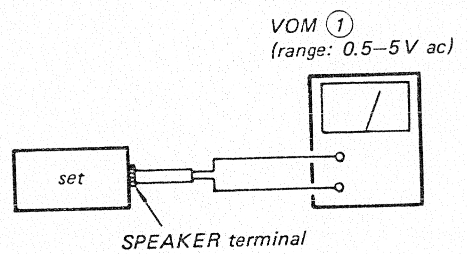


IFT1
450kHz
Adjust for a maximum reading on VOM ①.
AM IF ALIGNMENT

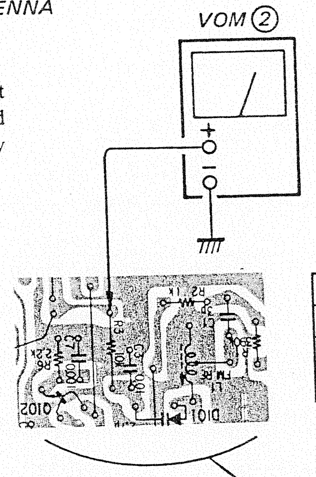
E model (Adjustments for UK model: See page 38.)

FM SECTION


FM rf signal generator
0.01 μF
set
±22.5 kHz frequency deviation, 30%
FM ANTENNA terminal


VOM ①
(range: 0.5–5 V ac)
set
SPEAKER terminal

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



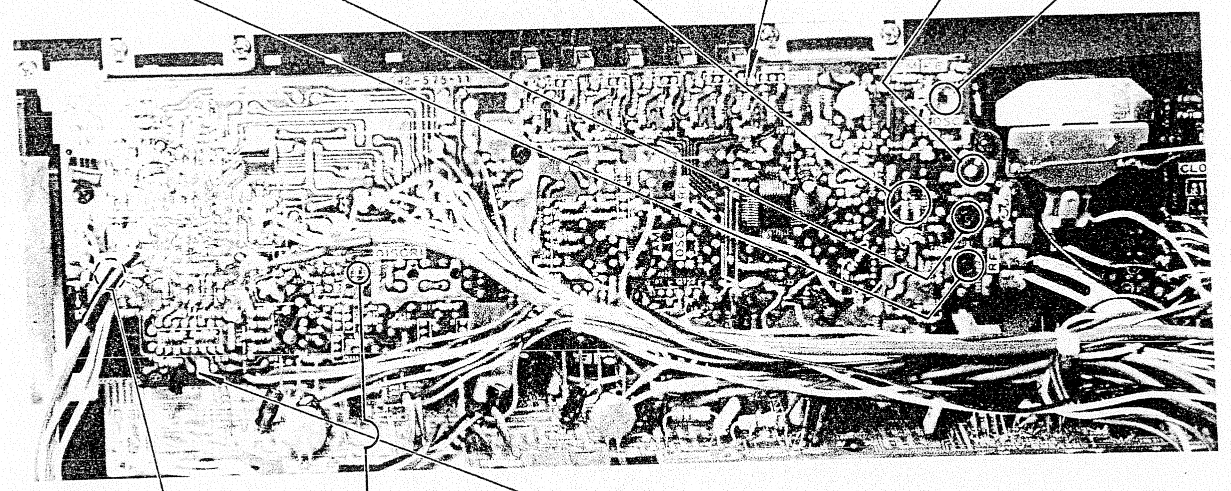
FM TRACKING ADJUSTMENT

Adjust for a maximum reading on VOM ①.

108.5 MHz	87.1 MHz
CT1	L1

FM FREQUENCY COVERAGE ADJUSTMENT

	108.5 MHz	87.1 MHz
VOM ② reading	9 V	2 V
adjustment part	CT2	L2


tuner board
RV101
Q119
IC201 (terminal ⑫)

19 kHz Adjustment

A) Regular Method

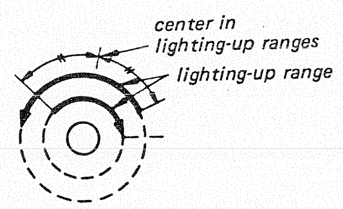
Procedure:

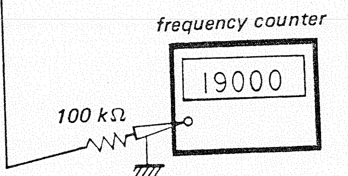
1. Ground the discriminator output (collector of Q119).
2. Adjust RV101 for 19 kHz frequency counter reading.

B) Simple Method

Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV101 clockwise or counterclockwise and memorize the lighting-up range of stereo lamp.
3. Secure RV101 at the center in lighting-up range of both turns as shown below.


center in lighting-up ranges
lighting-up range


frequency counter
19000
100 kΩ

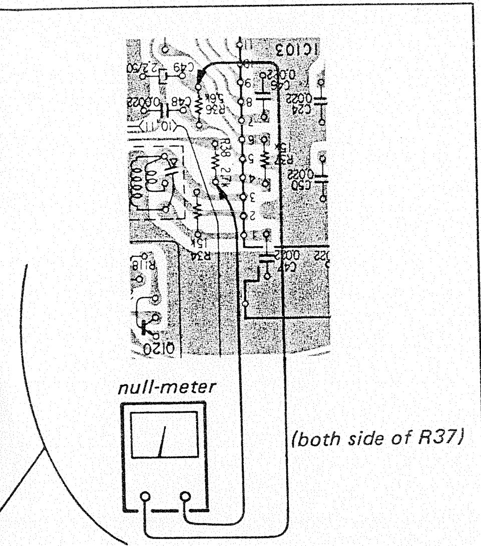
E model (Adjustments for UK model: See page 39.)

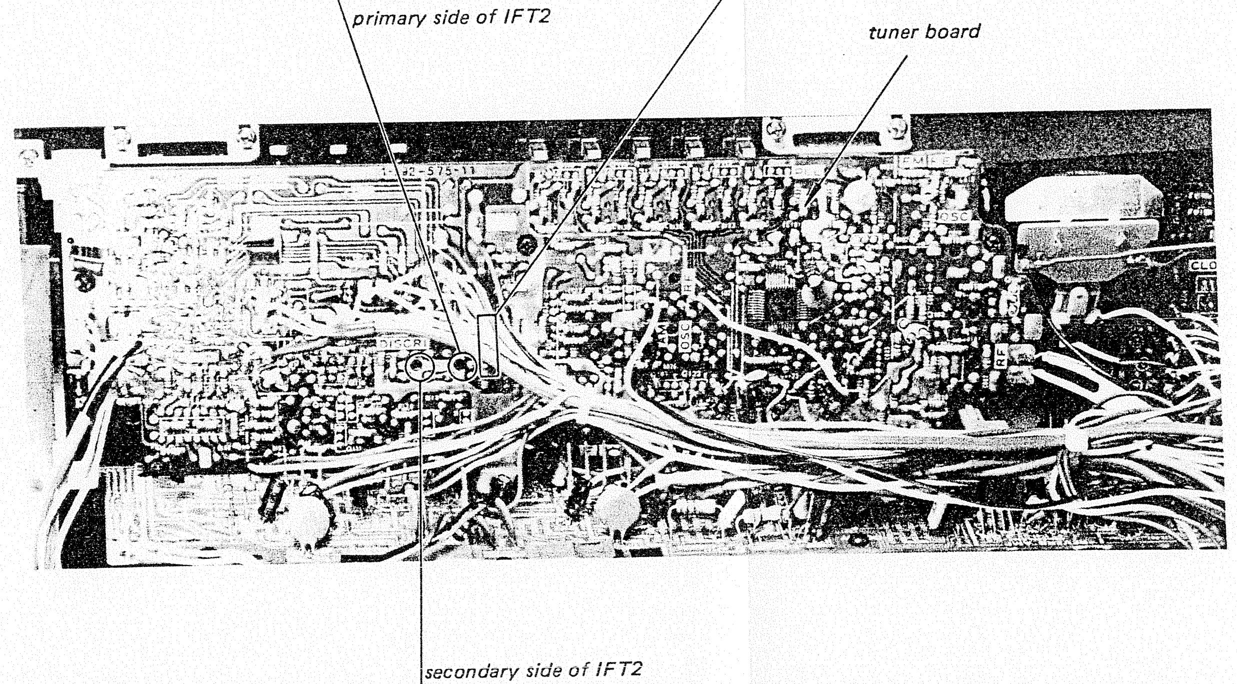
FM Discriminator Alignment 1

Setting: FM switch: ON

Procedure:

1. Set the AUTO TUNING switch to the off-the-air signal.
2. Connect the null-meter as shown on the right side.
3. Adjust the brown core (the primary side) of IFT2 for a medium reading on null-meter.


null-meter
(both side of R37)

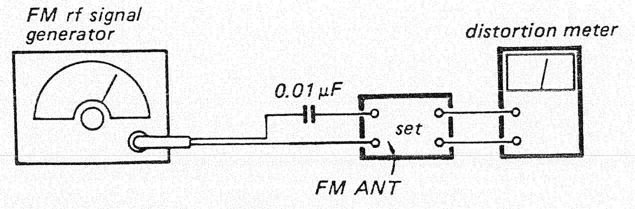

primary side of IFT2
tuner board
secondary side of IFT2

FM Discriminator Alignment 2

Setting: FM switch: ON

Procedure:

Adjust the black core (the secondary side) of IFT2 for a minimum reading on distortion meter.


FM rf signal generator
0.01 μF
set
distortion meter
FM ANT

Carrier frequency: 98 MHz
Modulation: 400 Hz, 75 kHz deviation (100%)
Output level: 1 mV (60 dB)

TMENT
87.1 MHz
2 V
L2

range

p ranges
-up range

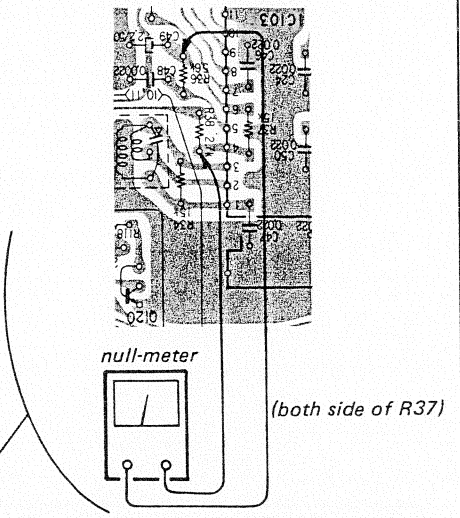
E model (Adjustments for UK model: See page 39.)

FM Discriminator Alignment 1

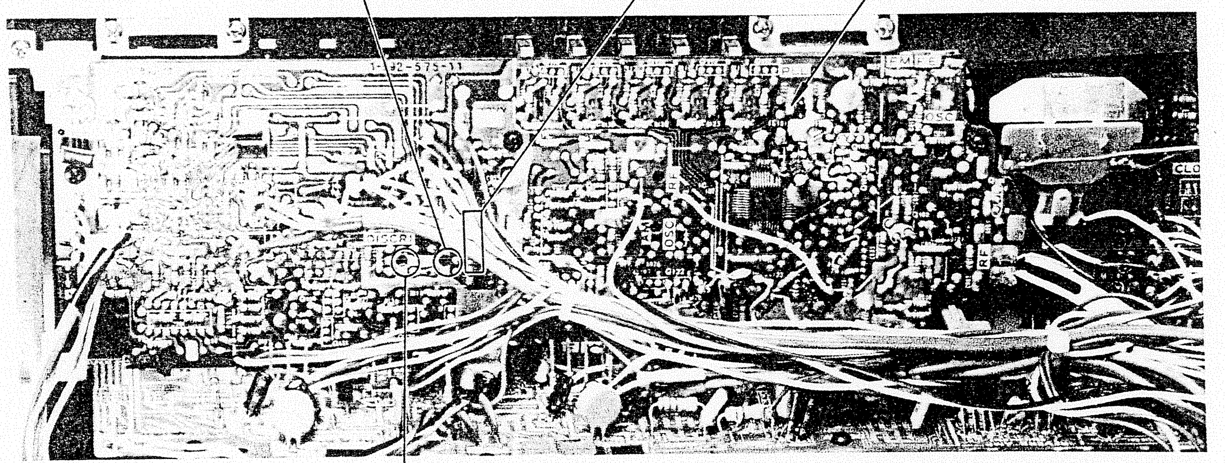
Setting: FM switch: ON

Procedure:

1. Set the AUTO TUNING switch to the off-the-air signal.
2. Connect the null-meter as shown on the right side.
3. Adjust the brown core (the primary side) of IFT2 for a medium reading on null-meter.



null-meter
(both side of R37)
Q120

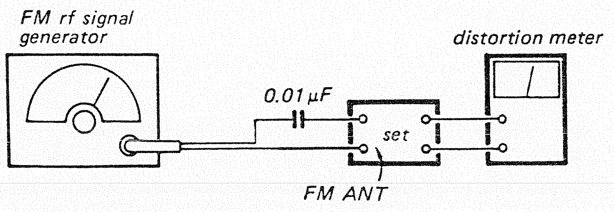


primary side of IFT2
tuner board
secondary side of IFT2

FM Discriminator Alignment 2

Setting: FM switch: ON

Procedure:



FM rf signal generator
distortion meter
0.01 μF
set
FM ANT

Carrier frequency: 98 MHz
Modulation: 400 Hz, 75 kHz deviation (100%)
Output level: 1 mV (60 dB)

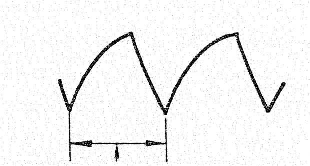
Adjust the black core (the secondary side) of IFT2 for a minimum reading on distortion meter.

E model (Adjustments for UK model: See page 40.)

TUNER SECTION

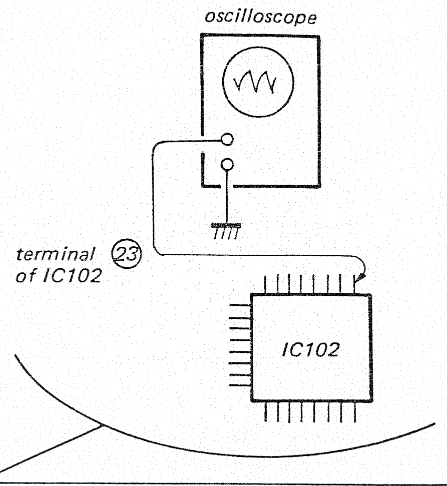
Scan Speed Adjustment

1. Connect the oscilloscope or the frequency counter to the terminal ㉓ of IC102.
2. Adjust RV102 to obtain 80 Hz in SCAN mode.

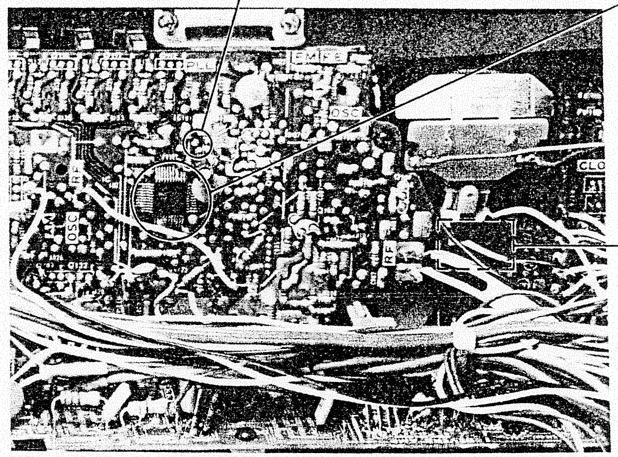


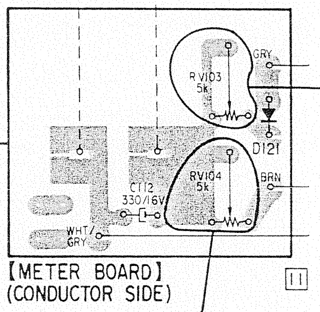
Approx. 12.5 m SEC (80 Hz)

Note: When the frequency counter is used, connect the buffer amplifier (emitter follower, etc.) in series with the counter.



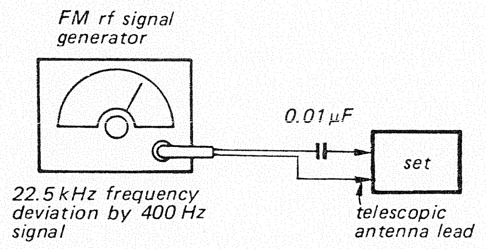
oscilloscope
terminal ㉓ of IC102
IC102



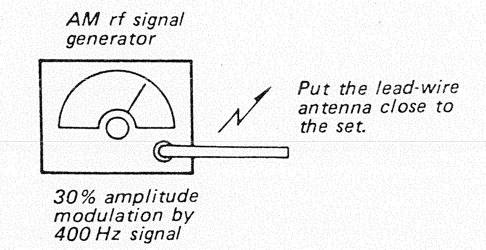


RV103 5k
GRY
D121
RV104 5k
BRN
C112 330/16V
WHT/GRY
【METER BOARD】 (CONDUCTOR SIDE)
11
RV104
RV103

Fiber Meter Adjustment

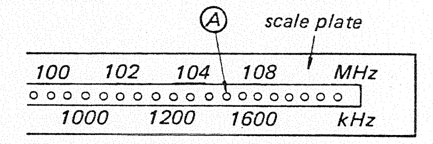


FM rf signal generator
0.01 μF
set
22.5 kHz frequency deviation by 400 Hz signal
telescopic antenna lead

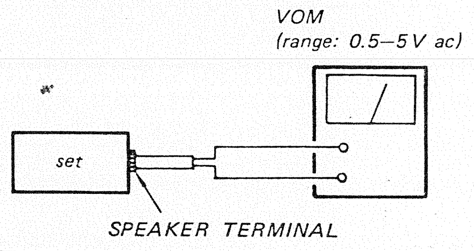


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal

1. Tune the set to 106 MHz signal of FM RF SSG.
2. Adjust RV104 for 106 MHz (Ⓐ) reading on fiber meter.
3. Tune the set to 1400 kHz signal of AM RF SSG.
4. Adjust RV103 for 1400 kHz (Ⓐ) reading on fiber meter.
5. Repeat the steps 1.–4. several times.



Ⓐ
scale plate
100 102 104 108 MHz
1000 1200 1600 kHz



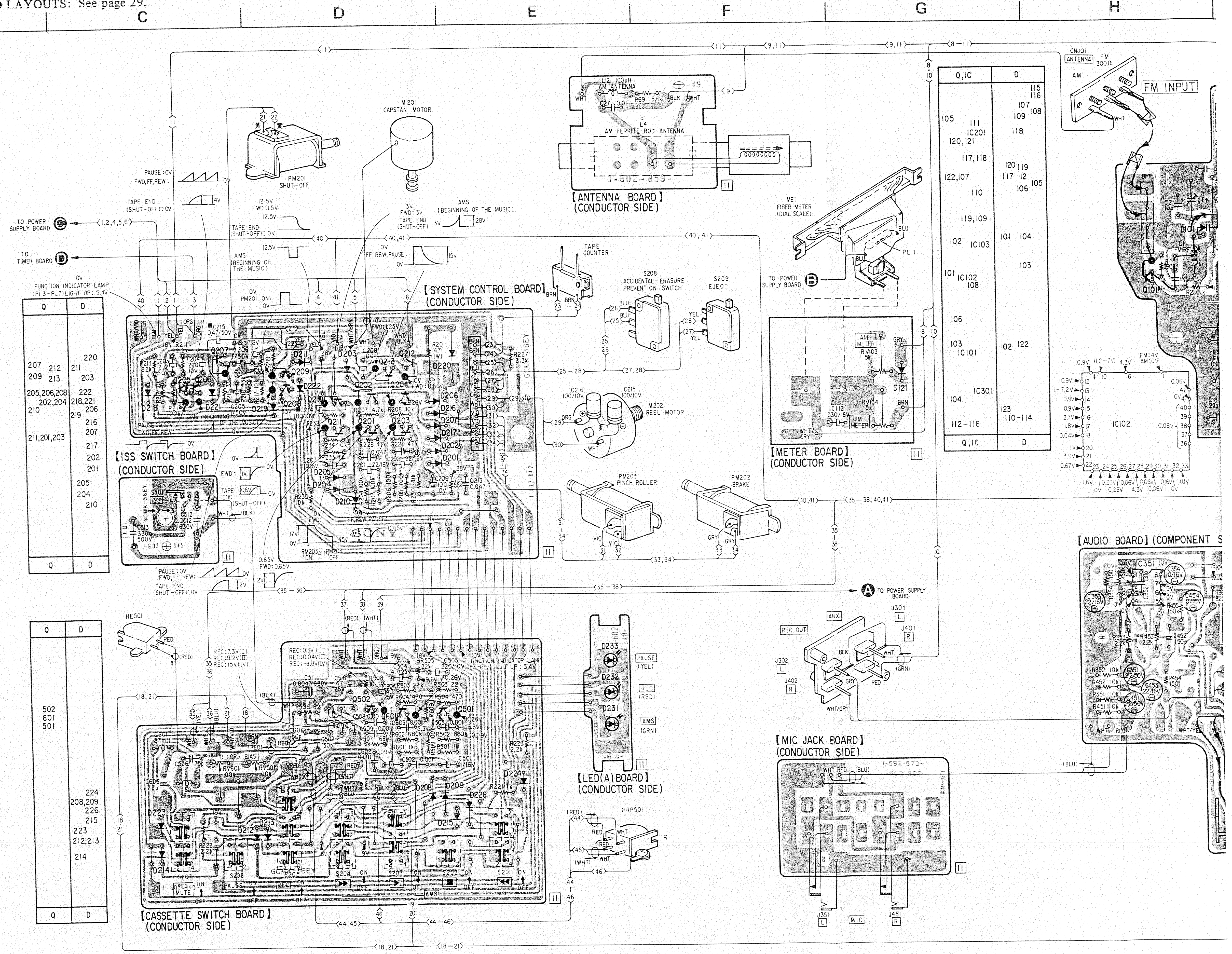
VOM (range: 0.5–5 V ac)
set
SPEAKER TERMINAL

4-1. Diagrams for E model
(Diagrams for UK model: See page 41.)

SECTION 4
DIAGRAMS

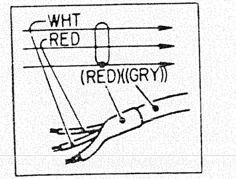
MOUNTING DIAGRAM
– Tuner/Cassette Section –

SEMICONDUCTOR LEAD LAYOUTS: See page 29.

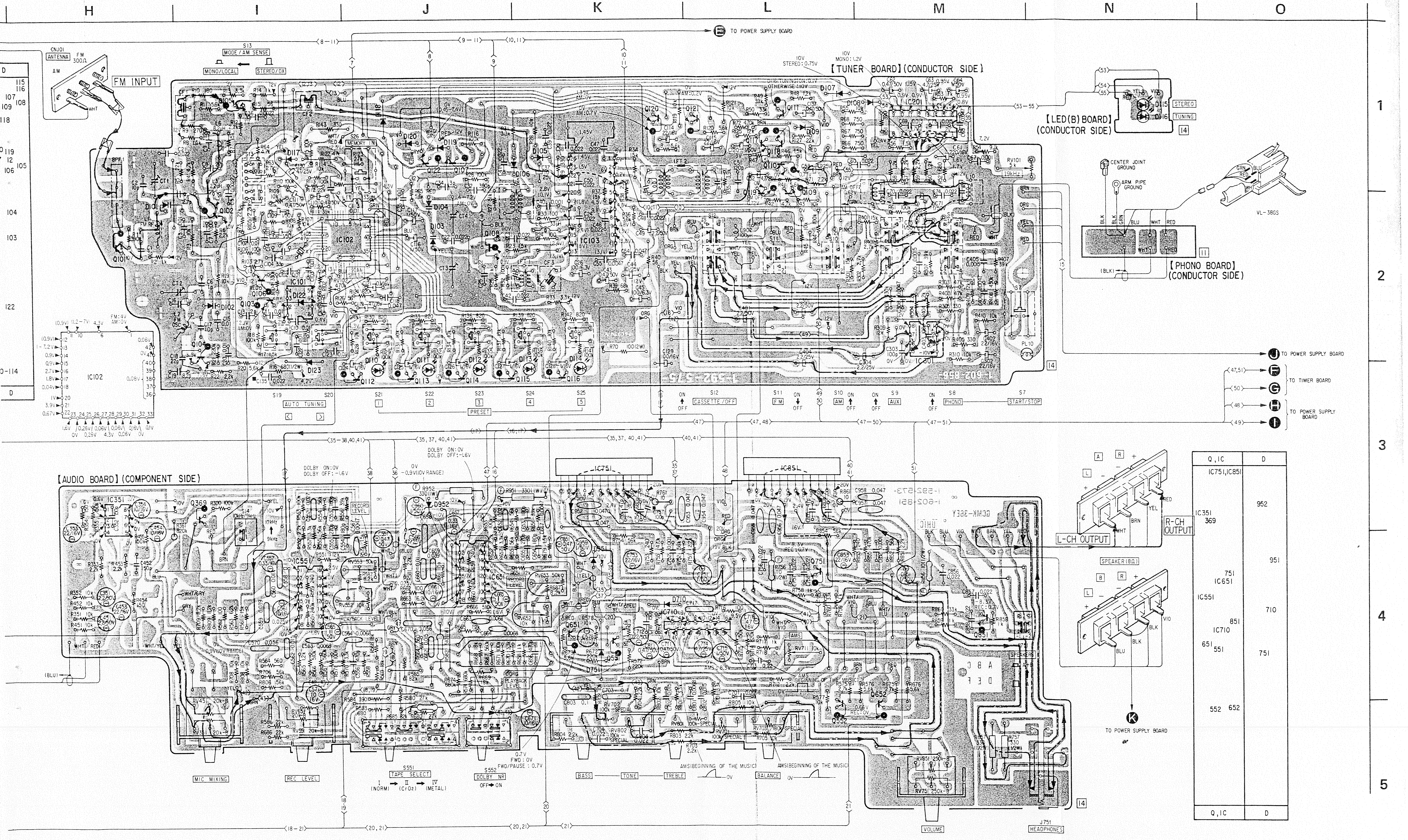

A
B
C
D
E
F
G
H
1
2
3
4
5
M201 CAPSTAN MOTOR
PM201 SHUT-OFF
PAUSE: 0V
FWD,FF,REW:
TAPE END (SHUT-OFF): 0V
TO POWER SUPPLY BOARD
TO TIMER BOARD
FUNCTION INDICATOR LAMP (PL3-PL7) LIGHT UP: 5.4V
AMS (BEGINNING OF THE MUSIC)
TAPE COUNTER
S208 ACCIDENTAL-ERASURE PREVENTION SWITCH
S209 EJECT
[SYSTEM CONTROL BOARD] (CONDUCTOR SIDE)
[ISS SWITCH BOARD] (CONDUCTOR SIDE)
M202 REEL MOTOR
PM203 PINCH ROLLER
PM202 BRAKE
L2 100µH AM ANTENNA
L4 AM FERRITE-ROD ANTENNA
[ANTENNA BOARD] (CONDUCTOR SIDE)
ME1 FIBER METER (DIAL SCALE)
PL1
AM METER
FM METER
[METER BOARD] (CONDUCTOR SIDE)
CNJ01 FM ANTENNA 300Ω
AM
FM INPUT
IC102
Q,IC
D
[AUDIO BOARD] (COMPONENT S
HE501
REC: 7.3V(I) REC: 9.2V(II) REC: 15V(IV)
FUNCTION INDICATOR LAMP (PL3-PL7) LIGHT UP: 5.4V
[LED(A) BOARD] (CONDUCTOR SIDE)
PAUSE (YEL)
REC (RED)
AMS (GRN)
RECORD BIAS
[CASSETTE SWITCH BOARD] (CONDUCTOR SIDE)
HRP501
TO POWER SUPPLY BOARD
J301 L
J401 R
J302 L
J402 R
REC OUT
AUX
[MIC JACK BOARD] (CONDUCTOR SIDE)
J351 L
MIC
J451 R

Note:

- Color code of sleeving over the end of the jacket.


WHT
RED
(RED)(GRY)

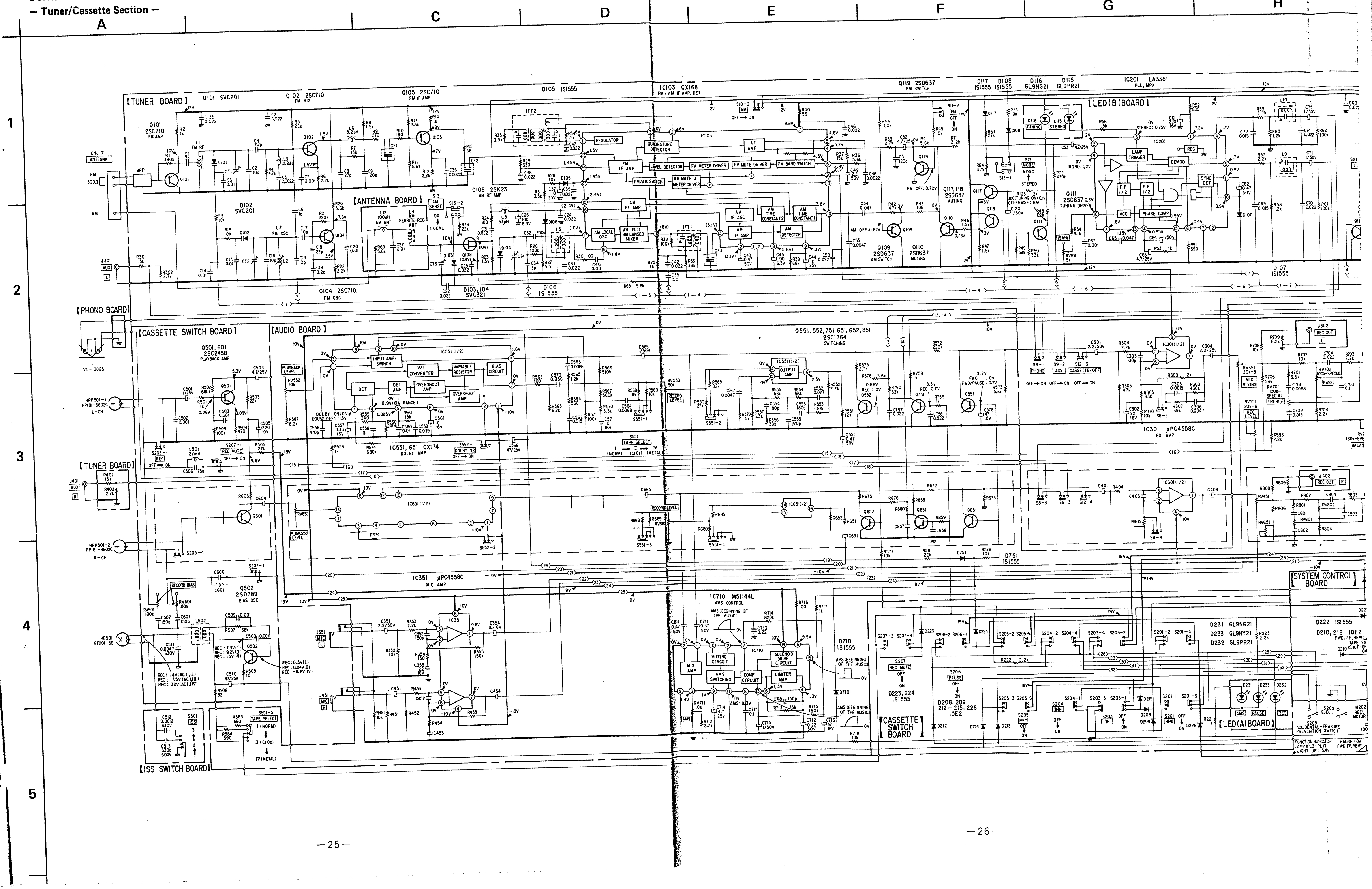
- [ ]: indicates side identified with part number.
- Ⓕ : fusible resistor.
- ▨ : B + pattern
- ░ : B – pattern
- ▭ : adjustment for repair.
- ━━▶━ : signal path
- ━━━▶ : L-CH signal path
- ━·━▶ : R-CH signal path

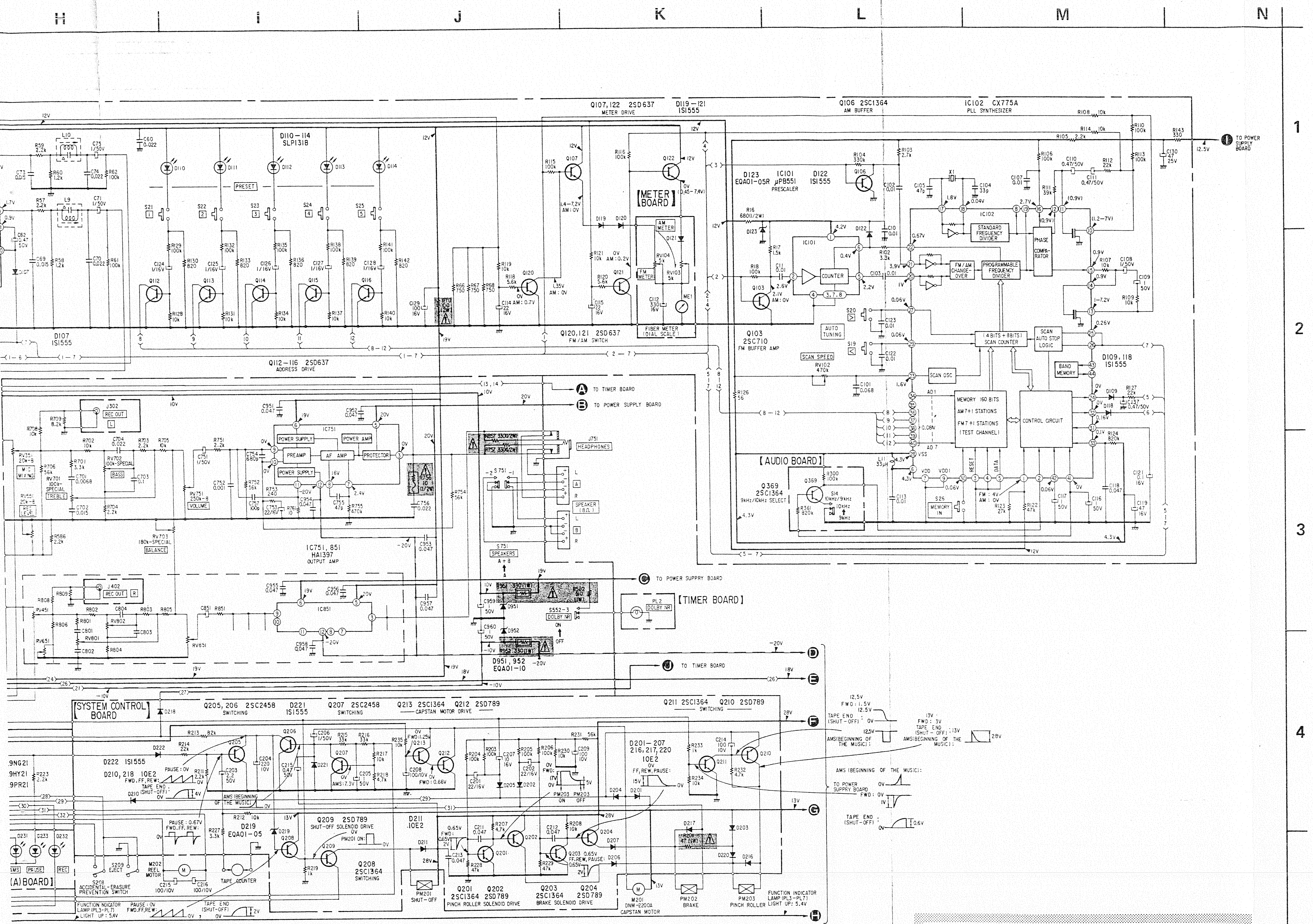

H
I
J
K
L
M
N
O
1
2
3
4
5
TO POWER SUPPLY BOARD
CNJ01 ANTENNA
FM 300Ω
AM
FM INPUT
S13 MODE/AM SENSE
MONO/LOCAL
STEREO/DX
【TUNER BOARD】(CONDUCTOR SIDE)
【LED(B) BOARD】(CONDUCTOR SIDE)
STEREO
TUNING
CENTER JOINT GROUND
ARM PIPE GROUND
VL-38GS
【PHONO BOARD】(CONDUCTOR SIDE)
IC102
IC103
IC101
IC201
IC301
S19 AUTO TUNING
S20
S21 1
S22 2
S23 3
S24 4
S25 5
PRESET
S12 CASSETTE/OFF
S11 FM
S10 AM
S9 AUX
S8 PHONO
S7 START/STOP
TO TIMER BOARD
TO POWER SUPPLY BOARD
【AUDIO BOARD】(COMPONENT SIDE)
IC351
IC551
IC651
IC751
IC851
IC710
DOLBY ON: 0V
DOLBY OFF: -1.6V
S14 10kHz/9kHz
RECORD LEVEL
PLAYBACK LEVEL
L-CH OUTPUT
R-CH OUTPUT
SPEAKER (8Ω)
MIC MIXING
REC LEVEL
S551 TAPE SELECT
I (NORM) → II (CrO2) → IV (METAL)
S552 DOLBY NR
OFF → ON
FWD: 0V
FWD/PAUSE: 0.7V
BASS
TONE
TREBLE
BALANCE
AMS (BEGINNING OF THE MUSIC)
VOLUME
J751 HEADPHONES
TO POWER SUPPLY BOARD
Q,IC
D
IC751, IC851
IC351 369
952
951
751 IC651
IC551
710
851 IC710
651 551
751
552 652

E model (Diagrams for UK model: See page 45.)

SCHEMATIC DIAGRAM

– Tuner/Cassette Section –


A
C
D
E
F
G
H
1
2
3
4
5
[TUNER BOARD]
D101 SVC201
Q102 2SC710 FM MIX
Q105 2SC710 FM IF AMP
D105 1S1555
IC103 CX168 FM/AM IF AMP, DET
Q119 2SD637 FM SWITCH
D117 D108 1S1555 1S1555
D116 GL9NG21
D115 GL9PR21
IC201 LA3361 PLL, MPX
[LED(B)BOARD]
Q101 2SC710 FM AMP
CNJ 01 ANTENNA
FM 300Ω
AM
BPF1
[ANTENNA BOARD]
AM SENSE
DX LOCAL
Q108 2SK23 AM RF AMP
REGULATOR
QUADRATURE DETECTOR
FM IF AMP
LEVEL DETECTOR
FM METER DRIVER
FM MUTE DRIVER
FM BAND SWITCH
FM/AM SWITCH
AM MUTE & METER DRIVER
AM RF AMP
AM LOCAL OSC
AM FULL BALLANSED MIXER
AM IF AGC
AM IF AMP
AM TIME CONSTANT 2
AM TIME CONSTANT 1
AM DETECTOR
ΔF AMP
Q109 2SD637 AM SWITCH
Q110 2SD637 MUTING
Q117, 118 2SD637 MUTING
Q111 2SD637 TUNING DRIVER
LAMP TRIGGER
DEMOD
REG
SYNC DET
PHASE COMP
VCO
D102 SVC201
Q104 2SC710 FM OSC
D103, 104 SVC321
D106 1S1555
D107 1S1555
J301 AUX L
[PHONO BOARD]
VL-38GS
[CASSETTE SWITCH BOARD]
[AUDIO BOARD]
Q501, 601 2SC2458 PLAYBACK AMP
HRP501-1 PP181-3602C L-CH
HRP501-2 PP181-3602C R-CH
PLAYBACK LEVEL
INPUT AMP/SWITCH
V/I CONVERTER
VARIABLE RESISTOR
BIAS CIRCUIT
DET
OVERSHOOT AMP
DOLBY ON: 0V OFF: -1.6V
IC551, 651 CX174 DOLBY AMP
S552-1 DOLBY NR
S551 TAPE SELECT I (NORM) II (CrO2) IV (METAL)
RECORD LEVEL
OUTPUT AMP
Q551, 552, 751, 651, 652, 851 2SC1364 SWITCHING
IC301 μPC4558C EQ AMP
PHONO AUX CASSETTE/OFF
J302 REC OUT L
J402 REC OUT R
[TUNER BOARD]
J401 AUX R
Q601
S205-4
S207-1 REC MUTE
RECORD BIAS
Q502 2SD789 BIAS OSC
IC351 μPC4558C MIC AMP
J351 MIC L
J451 MIC R
HE501 EF201-36
REC: 14V(AC)(I) REC: 17.5V(AC)(II) REC: 32V(AC)(IV)
[ISS SWITCH BOARD]
S551-5 TAPE SELECT
IC710 M51144L AMS CONTROL
MIX AMP
MUTING CIRCUIT
AMS SWITCHING
COMP CIRCUIT
LIMITER AMP
SOLENOID DRIVE CIRCUIT
D710 1S1555
AMS (BEGINNING OF THE MUSIC)
S207 REC MUTE
D223, 224 1S1555
S206 PAUSE
D208, 209 212-215, 226 10E2
[CASSETTE SWITCH BOARD]
[SYSTEM CONTROL BOARD]
D231 GL9NG21
D233 GL9HY21
D232 GL9PR21
D222 1S1555
D210, 218 10E2
[LED(A)BOARD]
AMS PAUSE REC
S208 ACCIDENTAL-ERASURE PREVENTION SWITCH
FUNCTION INDICATOR LAMP (PL3-PL7) LIGHT UP: 5.4V
S209 EJECT
M202 REEL MOTOR


H
I
J
K
L
M
N
1
2
3
4
5
Q107,122 2SD637 METER DRIVE
D119–121 1S1555
Q106 2SC1364 AM BUFFER
IC102 CX775A PLL SYNTHESIZER
TO POWER SUPPLY BOARD
D110–114 SLP1318
PRESET
METER BOARD
D123 EQA01-05R
IC101 μPB551 PRESCALER
D122 1S1555
STANDARD FREQUENCY DIVIDER
PHASE COMPARATOR
FM/AM CHANGE-OVER
PROGRAMMABLE FREQUENCY DIVIDER
COUNTER
AUTO TUNING
SCAN SPEED
SCAN OSC
4 BITS + 8 BITS SCAN COUNTER
SCAN AUTO STOP LOGIC
BAND MEMORY
D109, 118 1S1555
MEMORY 160 BITS AM 7+1 STATIONS FM 7+1 STATIONS (TEST CHANNEL)
CONTROL CIRCUIT
FIBER METER (DIAL SCALE)
Q120,121 2SD637 FM/AM SWITCH
Q103 2SC710 FM BUFFER AMP
Q112–116 2SD637 ADDRESS DRIVE
D107 1S1555
TO TIMER BOARD
TO POWER SUPPLY BOARD
J302 REC OUT
IC751
POWER SUPPLY
PREAMP
AF AMP
POWER AMP
PROTECTOR
J751 HEADPHONES
TREBLE
BASS
VOLUME
BALANCE
SPEAKER
S751 SPEAKERS
IC751, 851 HA1397 OUTPUT AMP
AUDIO BOARD
Q369 2SC1364 9kHz/10kHz SELECT
J402 REC OUT
IC851
TO POWER SUPPLY BOARD
TIMER BOARD
DOLBY NR
D951, 952 EQA01-10
TO TIMER BOARD
SYSTEM CONTROL BOARD
Q205, 206 2SC2458 SWITCHING
D221 1S1555
Q207 2SC2458 SWITCHING
Q213 2SC1364 Q212 2SD789 CAPSTAN MOTOR DRIVE
Q211 2SC1364 Q210 2SD789 SWITCHING
D222 1S1555
D210, 218 10E2
D201–207 216, 217, 220 10E2
Q209 2SD789 SHUT-OFF SOLENOID DRIVE
D219 EQA01-05
Q208 2SC1364 SWITCHING
D211 10E2
Q201 Q202 2SC1364 2SD789 PINCH ROLLER SOLENOID DRIVE
Q203 Q204 2SC1364 2SD789 BRAKE SOLENOID DRIVE
PM201 SHUT-OFF
M201 DNM-2200A CAPSTAN MOTOR
PM202 BRAKE
PM203 PINCH ROLLER
FUNCTION INDICATOR LAMP (PL3–PL7) LIGHT UP: 5.4V
M202 REEL MOTOR
TAPE COUNTER
S208 ACCIDENTAL-ERASURE PREVENTION SWITCH
S209 EJECT
TAPE END (SHUT-OFF)
AMS (BEGINNING OF THE MUSIC)
TO POWER SUPPRY BOARD
(A) BOARD

Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ☐ : panel designation.
- ☐ : adjustment for repair.
- ——: B+ bus.
- – – –: B– bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (20 kΩ/V).
  ( ) : AM
  no mark: FM
- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings in the bias oscillator with a VTVM.
- Switch

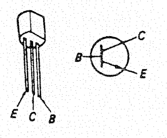
Ref. No.	Description	Position
S8	PHONO	OFF
S13	MODE/AM SENSE	STEREO/DX
S14	9 kHz 10 kHz	9 kHz
S19	AUTO TUNING ◁	OFF
S20	AUTO TUNING ▷	OFF
S21–25	PRESET 1 – 5	OFF
S26	MEMORY IN	OFF
S201	◀◀ REW	OFF
S203	▶ PLAY	ON
S204	▶▶ F.F.	OFF
S205	REC	OFF
S206	PAUSE	OFF
S207	REC MUTE	OFF
S208	ACCIDENTAL-ERASURE PREVENTION	OFF
S209	EJECT	OFF
S501	ISS	I
S551	TAPE SELECT	I (NORM)
S552	DOLBY NR	OFF
S751	SPEAKERS	A

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

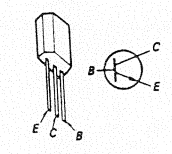
E model (Layouts for UK model: See page 49.)

SEMICONDUCTOR LEAD LAYOUTS

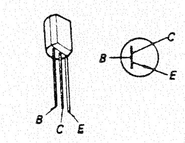
2SC1173
2SC1364
2SC1475
2SD438
2SD789



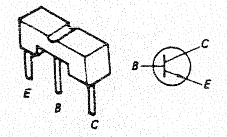
2SC2458



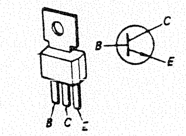
2SC710-14



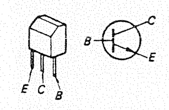
2SD637



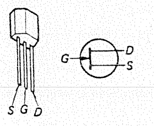
2SD880



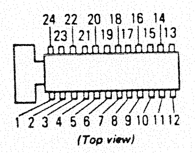
2SD774



2SK23A834

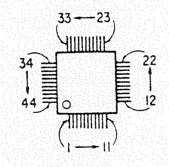


CX168



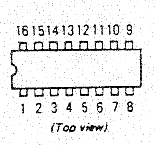
24 22 20 18 16 14
23 21 19 17 15 13
1 2 3 4 5 6 7 8 9 10 11 12
(Top view)

CX775
CX775A
CX7904



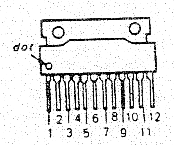
33 — 23
34
44
22
12
1 — 11

CX174
LA3361



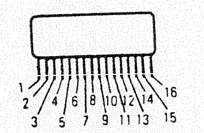
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

HA1397



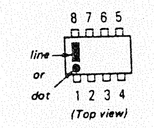
dot
1 2 4 6 8 10 12
1 3 5 7 9 11

M51144L



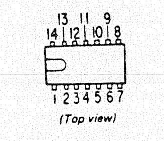
1 2 4 6 8 10 12 14 16
3 5 7 9 11 13 15

NJM4558D



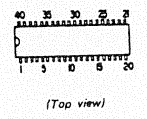
8 7 6 5
line
or
dot
1 2 3 4
(Top view)

SN16680N



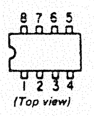
13 11 9
14 12 10 8
1 2 3 4 5 6 7
(Top view)

TMS1943N2L



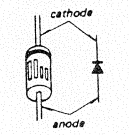
40 35 30 25 21
1 5 10 15 20
(Top view)

μPB551C
μPB552C
μPC4558C



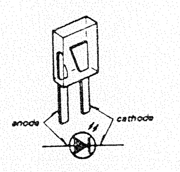
8 7 6 5
1 2 3 4
(Top view)

EQA01-05
EQA01-10
EQA01-13R
EQA01-20R
EQB01-05
EQB01-10
EQB01-13
EQB01-14
EQB01-15
EQB01-20
EQB01-24



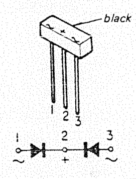
cathode
anode

GL9HY21
GL9NG21
GL9NG31
GL9PR21

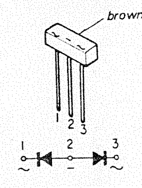


anode
cathode

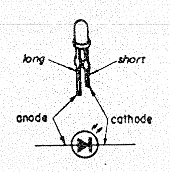
MI151
S3VC40



MI151R
S3VC40R

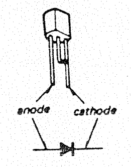


SLP131B



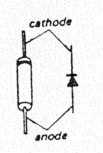
long
short
anode
cathode

SVC201
SVC321C



anode
cathode

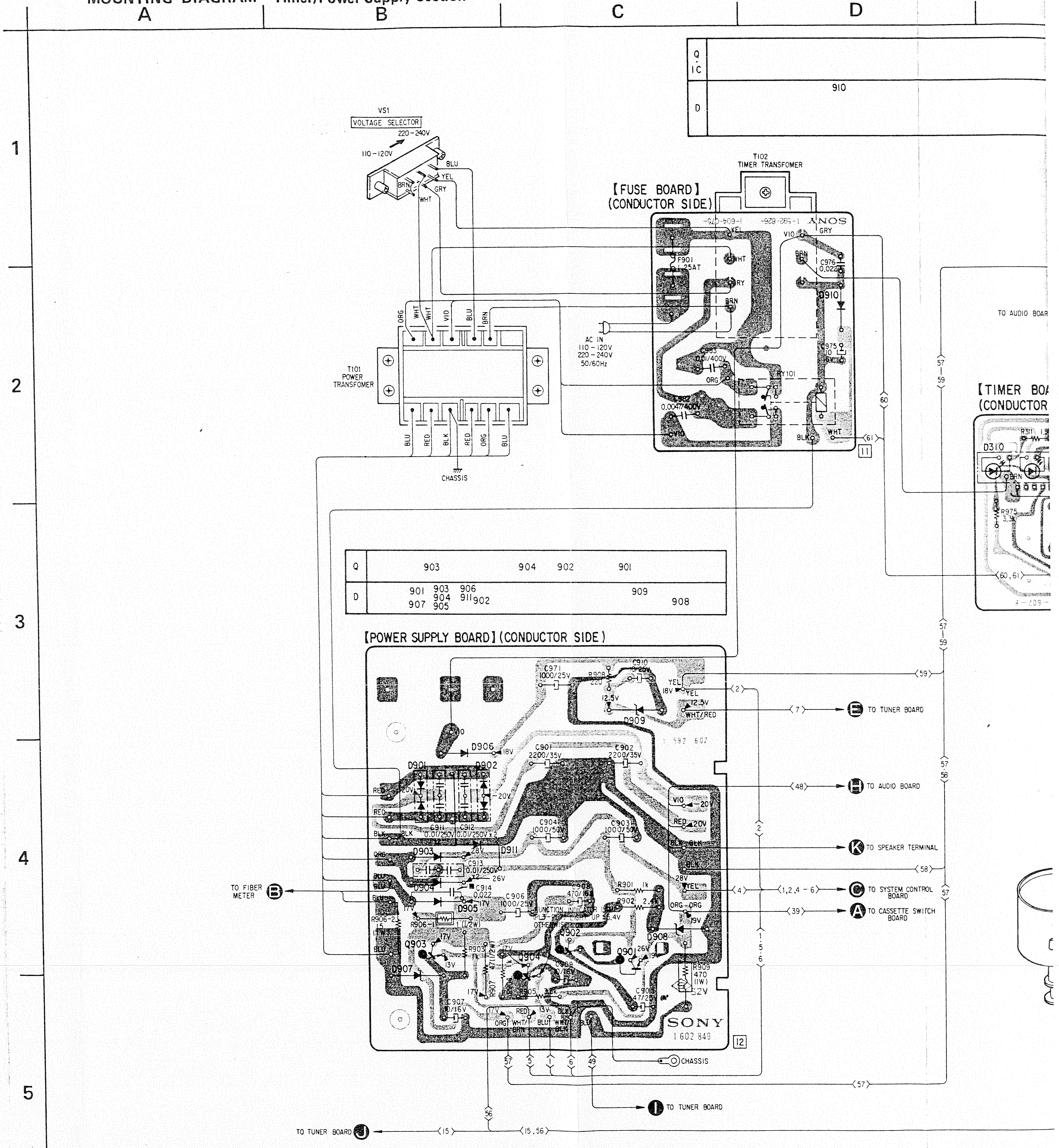
1T26
10E2
1S1555



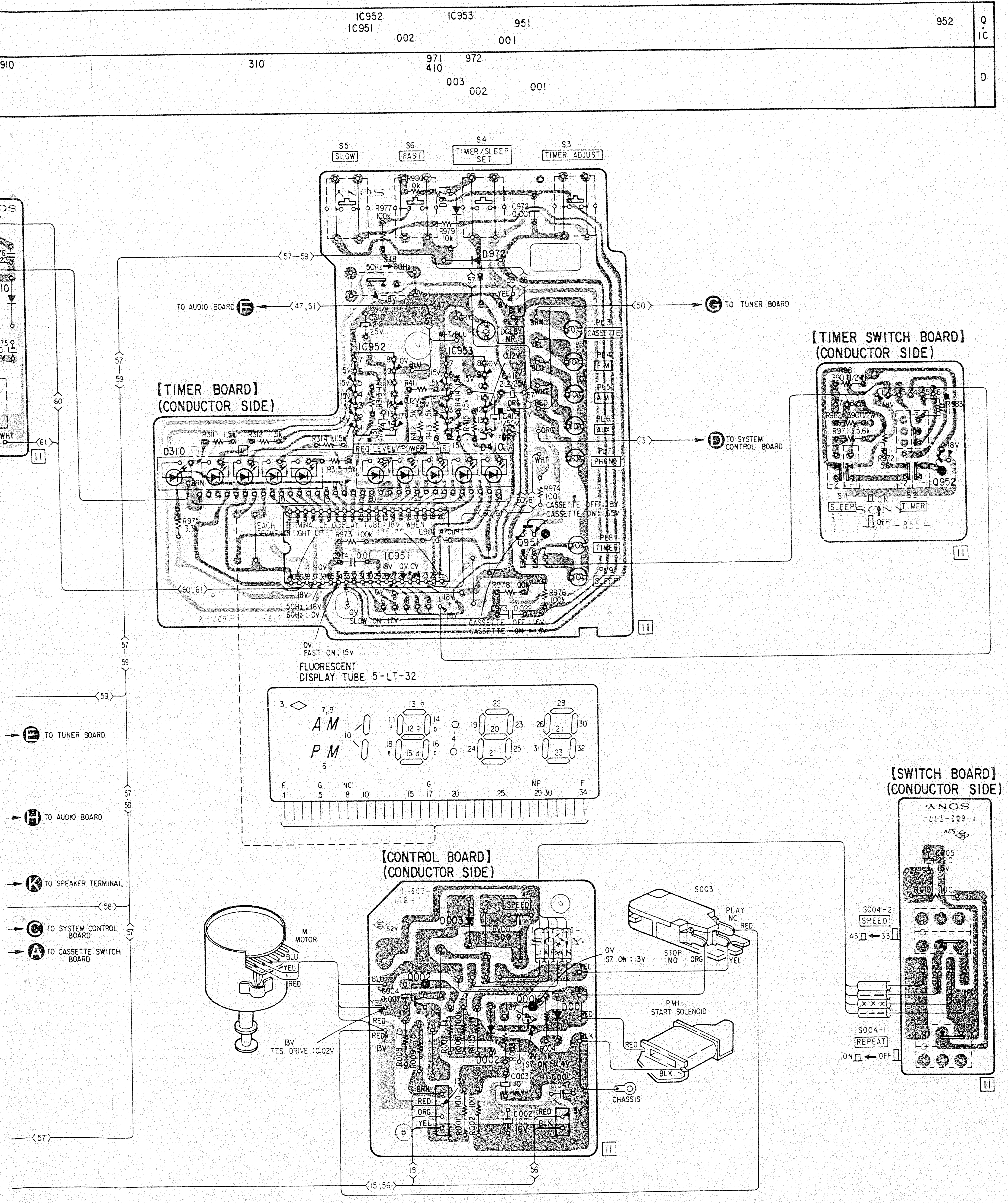
cathode
anode

E model (Diagrams for UK model: See page 50.)

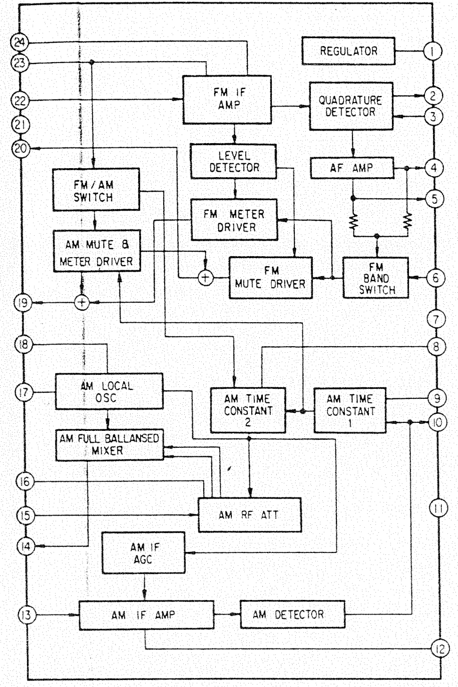
MOUNTING DIAGRAM —Timer/Power Supply Section —



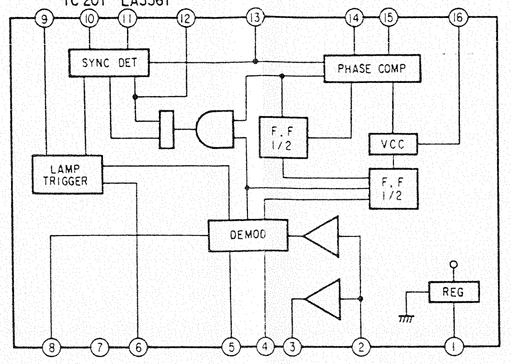
A
B
C
D
1
2
3
4
5
Q
IC
D
910
VS1
VOLTAGE SELECTOR
220-240V
110-120V
BLU
YEL
GRY
WHT
BRN
T102
TIMER TRANSFOMER
【FUSE BOARD】
(CONDUCTOR SIDE)
F901
D910
C976
C975
C982
RY101
VIO
ORG
BLK
AC IN
110 - 120V
220 - 240V
50/60Hz
T101
POWER
TRANSFOMER
RED
CHASSIS
TO AUDIO BOAR
【TIMER BOA
(CONDUCTOR
D310
R975
Q
903
904
902
901
D
901
903
906
904
911
902
907
905
909
908
【POWER SUPPLY BOARD】(CONDUCTOR SIDE)
C971 1000/25V
C910
R908
18V
12.5V
D909
WHT/RED
D906
C901 2200/35V
C902 2200/35V
D901
D902
C904 1000/50V
C903 1000/50V
C911 0.01/250V
C912 0.01/250V
D903
D911
C913 0.01/250V
C914 0.022
C906 1000/25V
D905
R901 1k
R902
R906
R905
Q903
Q902
Q904
Q901
D907
R907
C907
C905 47/25V
R909 470 (1W)
D908
SONY
1 602 849
TO TUNER BOARD
TO AUDIO BOARD
TO SPEAKER TERMINAL
TO SYSTEM CONTROL BOARD
TO CASSETTE SWITCH BOARD
TO FIBER METER
CHASSIS
E
H
K
C
A
B
I
J


IC952
IC951
IC953
951
952
002
001
Q
IC
910
310
971
410
972
003
002
001
D
S5 SLOW
S6 FAST
S4 TIMER/SLEEP SET
S3 TIMER ADJUST
TO AUDIO BOARD
TO TUNER BOARD
TO SYSTEM CONTROL BOARD
【TIMER BOARD】 (CONDUCTOR SIDE)
D310
IC952
IC953
IC951
D410
RED LEVEL/POWER
CASSETTE
FM
AM
AUX
PHONO
TIMER
SLEEP
EACH TERMINAL OF DISPLAY TUBE :18V WHEN SEGMENTS LIGHT UP
CASSETTE OFF :28V
CASSETTE ON :15V
CASSETTE OFF :15V
CASSETTE ON :18V
0V FAST ON :15V
SLOW ON :17V
50Hz :18V
60Hz :0V
【TIMER SWITCH BOARD】 (CONDUCTOR SIDE)
SLEEP
TIMER
ON
OFF
Q952
FLUORESCENT DISPLAY TUBE 5-LT-32
AM
PM
TO TUNER BOARD
TO AUDIO BOARD
TO SPEAKER TERMINAL
TO SYSTEM CONTROL BOARD
TO CASSETTE SWITCH BOARD
M1 MOTOR
BLU
YEL
RED
13V TTS DRIVE :0.02V
【CONTROL BOARD】 (CONDUCTOR SIDE)
SPEED
D003
D002
S003
PLAY NC
STOP NO
0V S7 ON :13V
PM1 START SOLENOID
CHASSIS
【SWITCH BOARD】 (CONDUCTOR SIDE)
S004-2 SPEED
S004-1 REPEAT
ON OFF
SONY

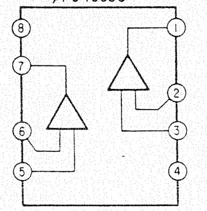
IC 103 CX168


REGULATOR
FM IF AMP
QUADRATURE DETECTOR
LEVEL DETECTOR
AF AMP
FM/AM SWITCH
FM METER DRIVER
AM MUTE & METER DRIVER
FM MUTE DRIVER
FM BAND SWITCH
AM LOCAL OSC
AM TIME CONSTANT 2
AM TIME CONSTANT 1
AM FULL BALLANSED MIXER
AM RF ATT
AM IF AGC
AM IF AMP
AM DETECTOR

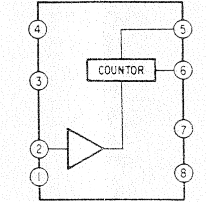
IC 201 LA3361


SYNC DET
PHASE COMP
LAMP TRIGGER
F.F 1/2
VCC
F.F 1/2
DEMOD
REG

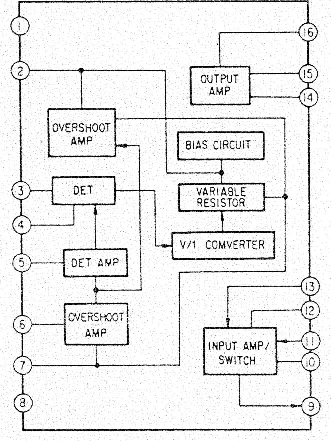
IC 301, 351 μPC4558C



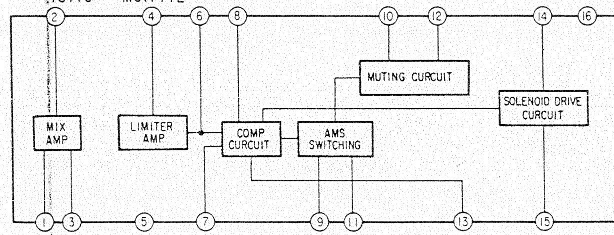
IC 101 μPB551



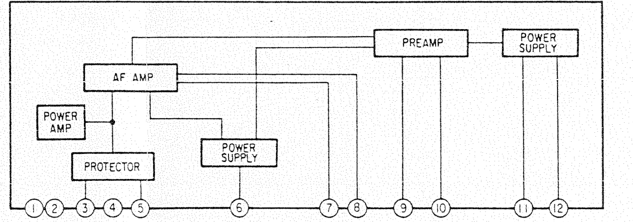
IC 551, 651 CX174


OUTPUT AMP
OVERSHOOT AMP
BIAS CIRCUIT
DET
VARIABLE RESISTOR
V/I COMVERTER
DET AMP
OVERSHOOT AMP
INPUT AMP/SWITCH

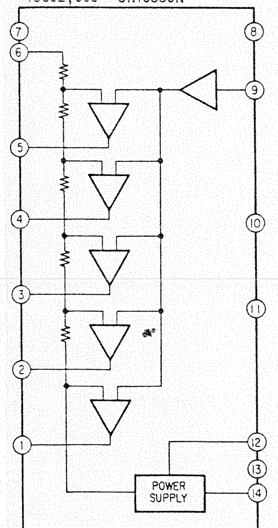
IC 710 M51144L


MUTING CURCUIT
SOLENOID DRIVE CURCUIT
MIX AMP
LIMITER AMP
COMP CURCUIT
AMS SWITCHING

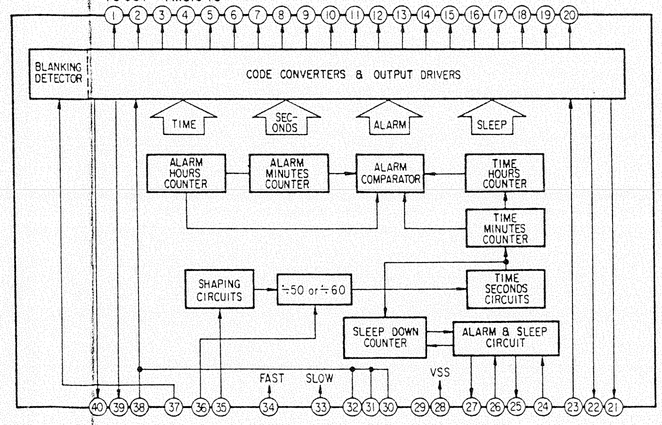
IC 751, 851 HA1397


PREAMP
POWER SUPPLY
AF AMP
POWER AMP
PROTECTOR
POWER SUPPLY

IC 952, 953 SN16880N


POWER SUPPLY

IC 951 TMS1943

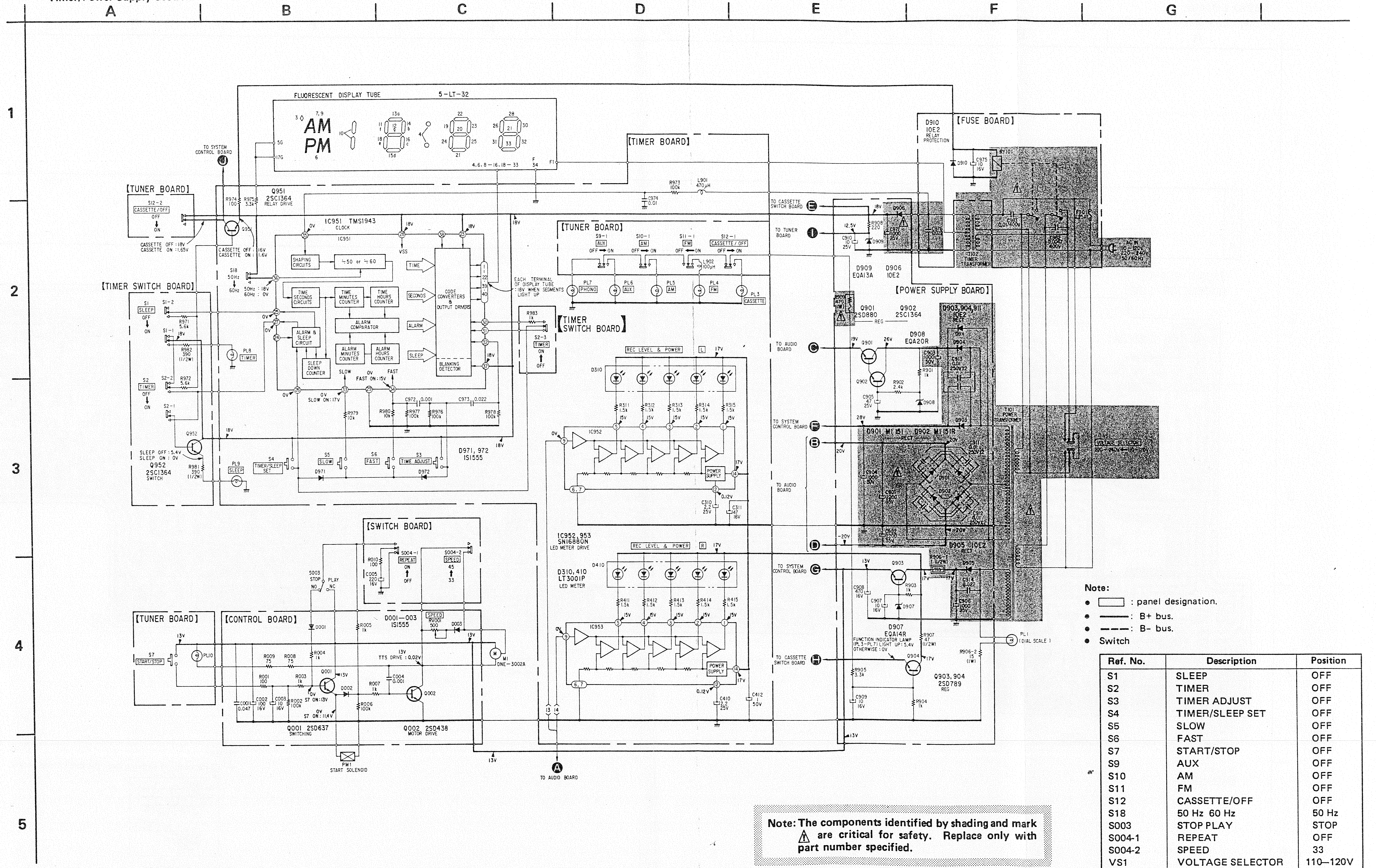

BLANKING DETECTOR
CODE CONVERTERS & OUTPUT DRIVERS
TIME
SEC-ONDS
ALARM
SLEEP
ALARM HOURS COUNTER
ALARM MINUTES COUNTER
ALARM COMPARATOR
TIME HOURS COUNTER
TIME MINUTES COUNTER
SHAPING CIRCUITS
÷50 or ÷60
TIME SECONDS CIRCUITS
SLEEP DOWN COUNTER
ALARM & SLEEP CIRCUIT
FAST
SLOW
VSS

Note:

- ● ▨ : B + pattern
- ● ▩ : B − pattern
- ● ☐ : adjustment for repair.

SCHEMATIC DIAGRAM

– Timer/Power Supply Section –


A
B
C
D
E
F
G
1
2
3
4
5
FLUORESCENT DISPLAY TUBE
5-LT-32
AM
PM
[TUNER BOARD]
S12-2
CASSETTE/OFF
CASSETTE OFF : 18V
CASSETTE ON : 1.65V
TO SYSTEM CONTROL BOARD
Q951
2SC1364
RELAY DRIVE
IC951 TMS1943
CLOCK
SHAPING CIRCUITS
÷50 or ÷60
TIME SECONDS CIRCUITS
TIME MINUTES COUNTER
TIME HOURS COUNTER
ALARM COMPARATOR
ALARM & SLEEP CIRCUIT
SLEEP DOWN COUNTER
ALARM MINUTES COUNTER
ALARM HOURS COUNTER
TIME
SECONDS
ALARM
SLEEP
CODE CONVERTERS & OUTPUT DRIVERS
BLANKING DETECTOR
EACH TERMINAL OF DISPLAY TUBE : 18V WHEN SEGMENTS LIGHT UP
[TIMER SWITCH BOARD]
S1 SLEEP
S2 TIMER
S18 50Hz 60Hz
Q952 2SC1364 SWITCH
SLEEP OFF : 5.4V
SLEEP ON : 0V
S4 TIMER/SLEEP SET
S5 SLOW
S6 FAST
S3 TIME ADJUST
D971, 972 1S1555
[TIMER BOARD]
[TUNER BOARD]
S9-1 AUX
S10-1 AM
S11-1 FM
S12-1 CASSETTE/OFF
PL7 PHONO
PL6 AUX
PL5 AM
PL4 FM
PL3 CASSETTE
[TIMER SWITCH BOARD]
S2-3 TIMER
REC LEVEL & POWER
D310
IC952
IC952, 953 SN16880N LED METER DRIVE
D310, 410 LT3001P LED METER
D410
IC953
POWER SUPPLY
[SWITCH BOARD]
S004-1 REPEAT
S004-2 SPEED
S003 STOP PLAY
[TUNER BOARD]
S7 START/STOP
[CONTROL BOARD]
D001–003 1S1555
Q001 2SD637 SWITCHING
Q002 2SD438 MOTOR DRIVE
M1 DNE-3002A
PM1 START SOLENOID
TO AUDIO BOARD
[FUSE BOARD]
D910 10E2 RELAY PROTECTION
RY101
T102 TIMER TRANSFORMER
AC IN 110–120V 220–240V 50/60Hz
TO CASSETTE SWITCH BOARD
TO TUNER BOARD
TO AUDIO BOARD
TO SYSTEM CONTROL BOARD
[POWER SUPPLY BOARD]
D909 EQA13A
D906 10E2
Q901 2SD880 REG
Q902 2SC1364
D908 EQA20R
D903, 904, 911 10E2 RECT
T101 POWER TRANSFORMER
VS1 VOLTAGE SELECTOR
D901 M1151 RECT
D902 M1151R
D905 10E2
Q903
D907 EQA14R
FUNCTION INDICATOR LAMP (PL3–PL7) LIGHT UP : 5.4V OTHERWISE : 0V
Q903, 904 2SD789 REG
PL1 (DIAL SCALE)

Note:
- ▭ : panel designation.
- ——: B+ bus.
- – – –: B- bus.
- Switch

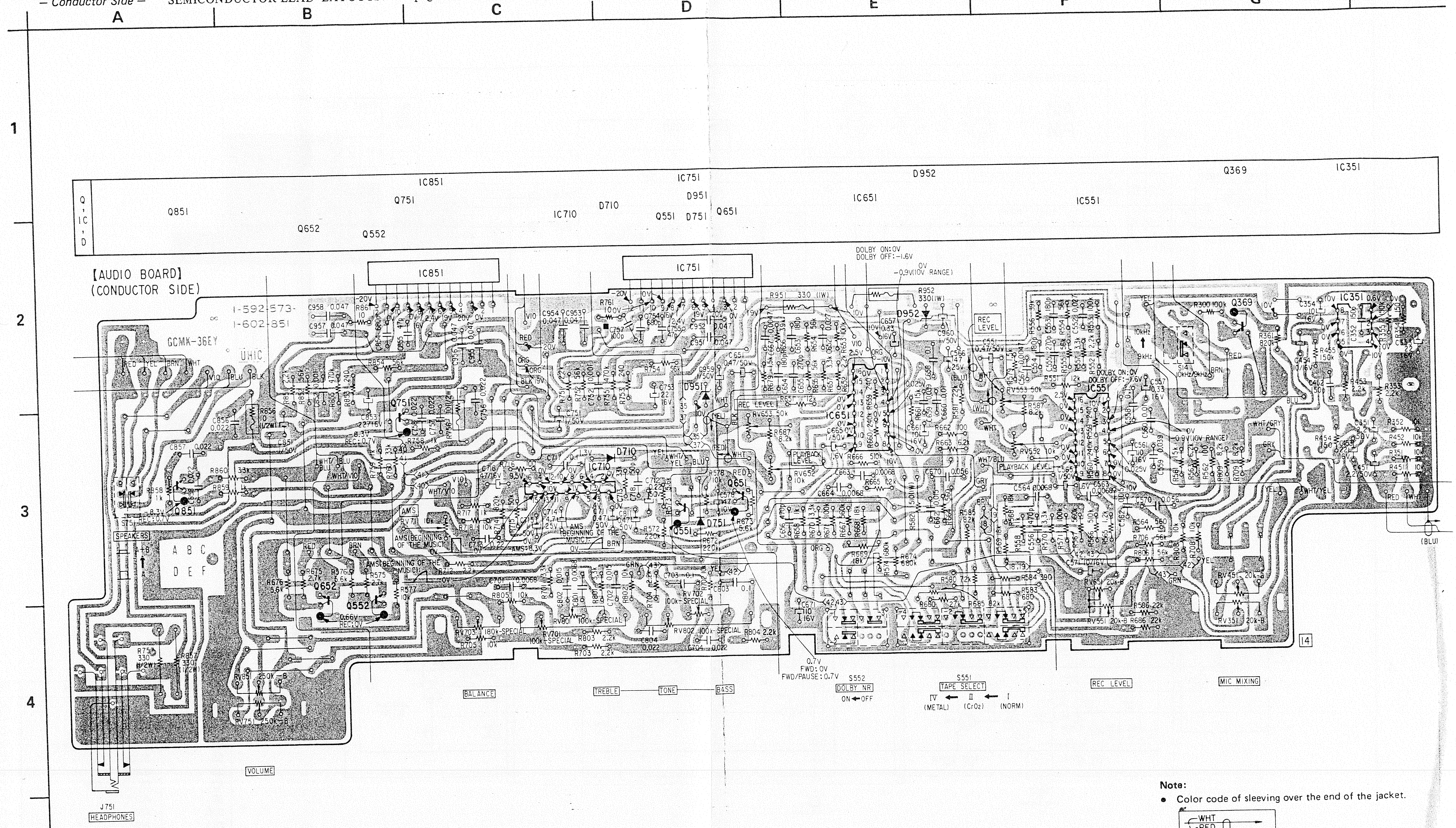
Ref. No.	Description	Position
S1	SLEEP	OFF
S2	TIMER	OFF
S3	TIMER ADJUST	OFF
S4	TIMER/SLEEP SET	OFF
S5	SLOW	OFF
S6	FAST	OFF
S7	START/STOP	OFF
S9	AUX	OFF
S10	AM	OFF
S11	FM	OFF
S12	CASSETTE/OFF	OFF
S18	50 Hz 60 Hz	50 Hz
S003	STOP PLAY	STOP
S004-1	REPEAT	OFF
S004-2	SPEED	33
VS1	VOLTAGE SELECTOR	110–120V

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

AUDIO BOARD

– Conductor Side –

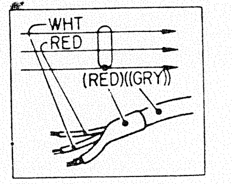
SEMICONDUCTOR LEAD LAYOUTS: See page 29.


A
B
C
D
E
F
G
1
2
3
4
Q, IC, D
Q851
Q652
Q552
IC851
Q751
IC710
D710
Q551
D751
IC751
D951
Q651
IC651
D952
IC551
Q369
IC351
[AUDIO BOARD]
(CONDUCTOR SIDE)
1-592-573-
1-602-851
GCMK-36EY
SPEAKERS
AMS
AMS(BEGINNING OF THE MUSIC)
REC LEVEL
PLAYBACK LEVEL
DOLBY ON:0V
DOLBY OFF:-1.6V
0V
-0.9V(10V RANGE)
R952 330(1W)
R951 330 (1W)
0.7V
FWD: 0V
FWD/PAUSE: 0.7V
S552
DOLBY NR
ON ← OFF
S551
TAPE SELECT
IV ← II ← I
(METAL) (CrO2) (NORM)
RV751 250k-B
RV851 250k-B
RV703 180k-SPECIAL
RV701 100k-SPECIAL
RV801 100k-SPECIAL
RV702 100k-SPECIAL
RV802 100k-SPECIAL
RV551 20k-B
RV651 20k-B
RV351 20k-B
RV451 20k-B
BALANCE
TREBLE
TONE
BASS
REC LEVEL
MIC MIXING
(BLU)
14
VOLUME
J751
HEADPHONES

5

Note:

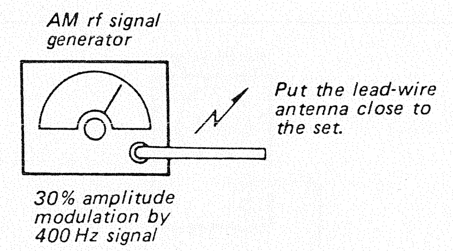
- Color code of sleeving over the end of the jacket.

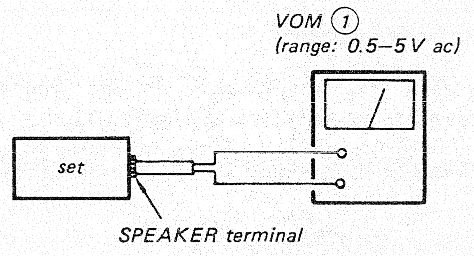

WHT
RED
(RED)(GRY)

- ▒ : B + pattern
- ▒ : B – pattern
- ☐ : adjustment for repair.

3-2-2. Adjustments for UK model (Adjustments for E model: See page 17.)

AM SECTION


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal


VOM ①
(range: 0.5–5 V ac)
set
SPEAKER terminal

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

LW TRACKING ADJUSTMENT

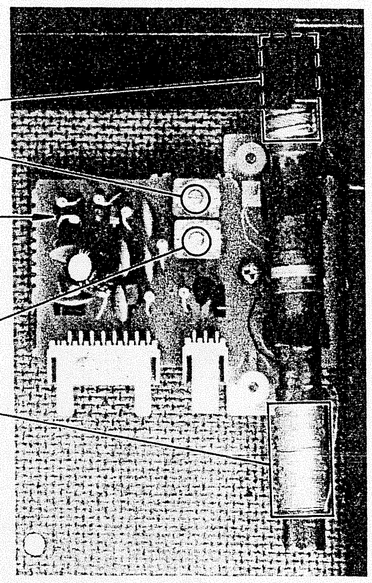
Adjust for a maximum reading on VOM ①.

173 kHz	L4 (LW)
308 kHz	CT6

MW TRACKING ADJUSTMENT

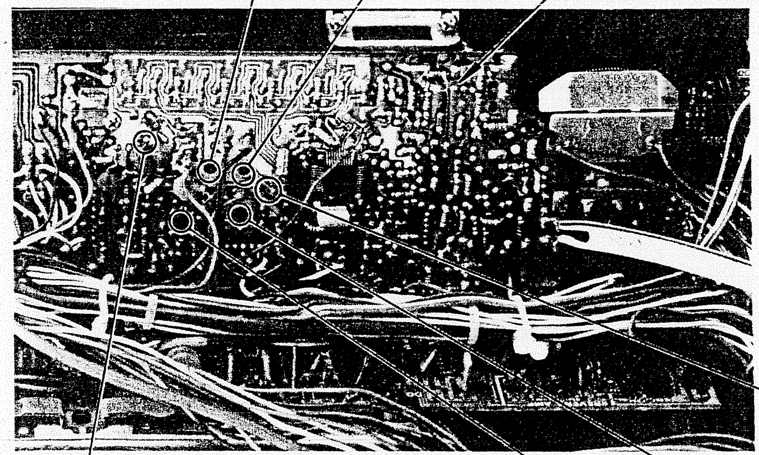
Adjust for a maximum reading on VOM ①.

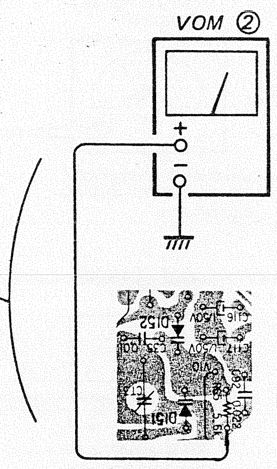
1404 kHz	CT5
603 kHz	L4 (MW)


antenna board

LW FREQUENCY COVERAGE ADJUSTMENT

	146 kHz	398 kHz
VOM ② reading	1.5 V	9 V
adjustment part	L7	CT4


tuner board



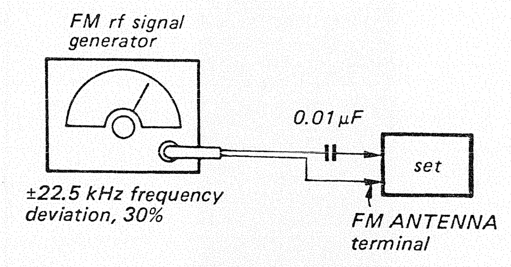
IFT1
450kHz
Adjust for a maximum reading on VOM ①.
AM IF ALIGNMENT

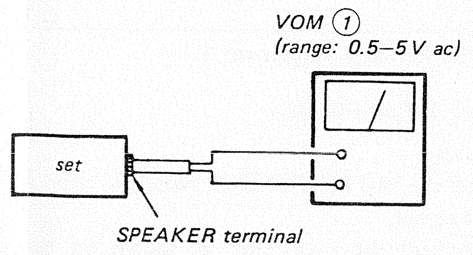
adjustment part	L5	CT3
VOM ② reading	1.5 V	9 V
	504 kHz	1620 kHz

MW FREQUENCY COVERAGE ADJUSTMENT

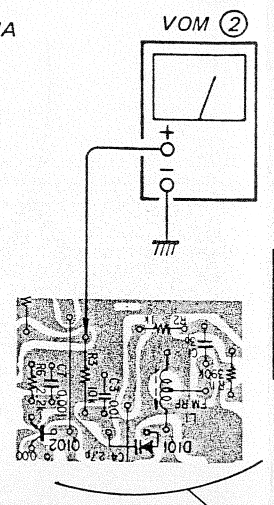
UK model (Adjustments for E model: See page 18.)

FM SECTION


FM rf signal generator
0.01 μF
set
±22.5 kHz frequency deviation, 30%
FM ANTENNA terminal


VOM ①
(range: 0.5–5 V ac)
set
SPEAKER terminal

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



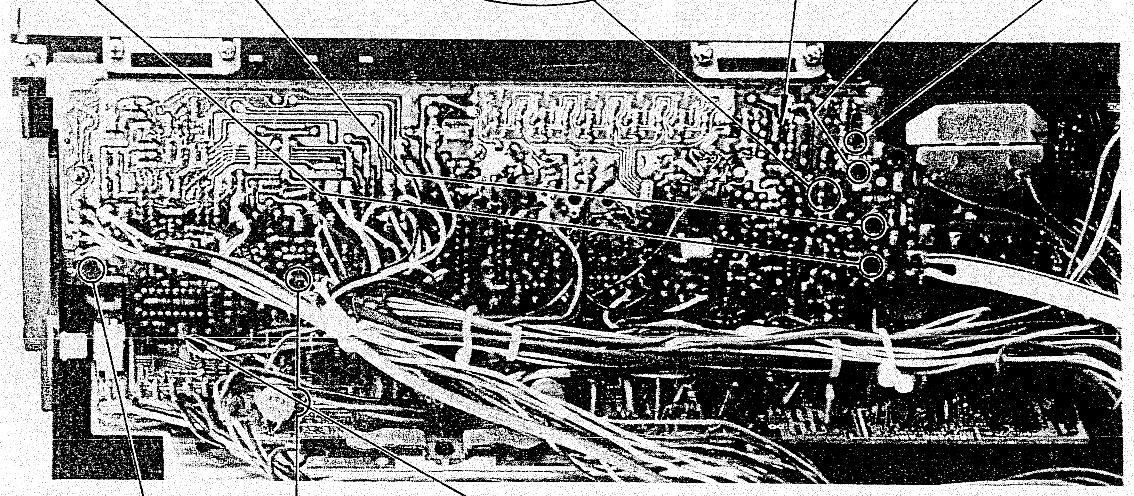
FM TRACKING ADJUSTMENT

Adjust for a maximum reading on VOM ①.

108.5 MHz	87.1 MHz
CT1	L1

FM FREQUENCY COVERAGE ADJUSTMENT

	108.5 MHz	87.1 MHz
VOM ② reading	9 V	2 V
adjustment part	CT2	L2


tuner board
RV101
Q119
IC201 (terminal ⑫)

19 kHz Adjustment

A) Regular Method

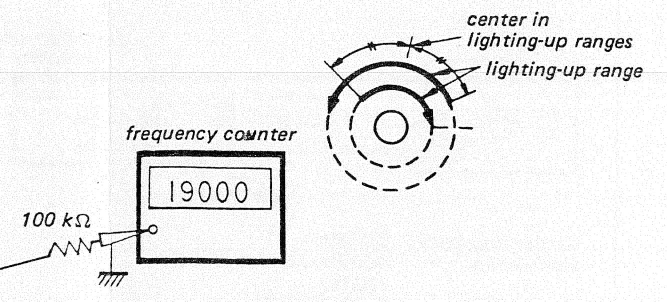
Procedure:

1. Ground the discriminator output (collector of Q119).
2. Adjust RV101 for 19 kHz frequency counter reading.

B) Simple Method

Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV101 clockwise or counterclockwise and memorize the lighting-up range of stereo lamp.
3. Secure RV101 at the center in lighting-up range of both turns as shown below.


center in lighting-up ranges
lighting-up range
frequency counter
19000
100 kΩ

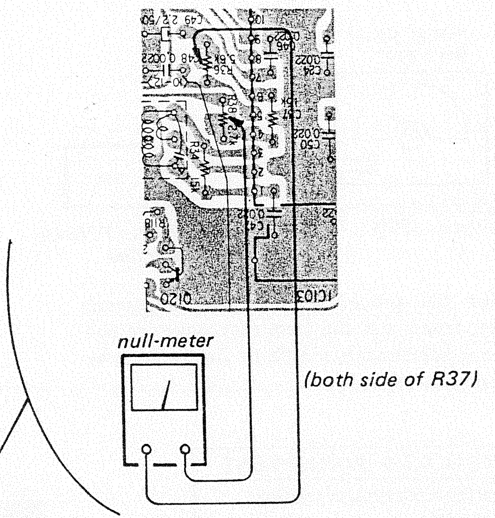
UK model (Adjustments for E model: See page 19.)

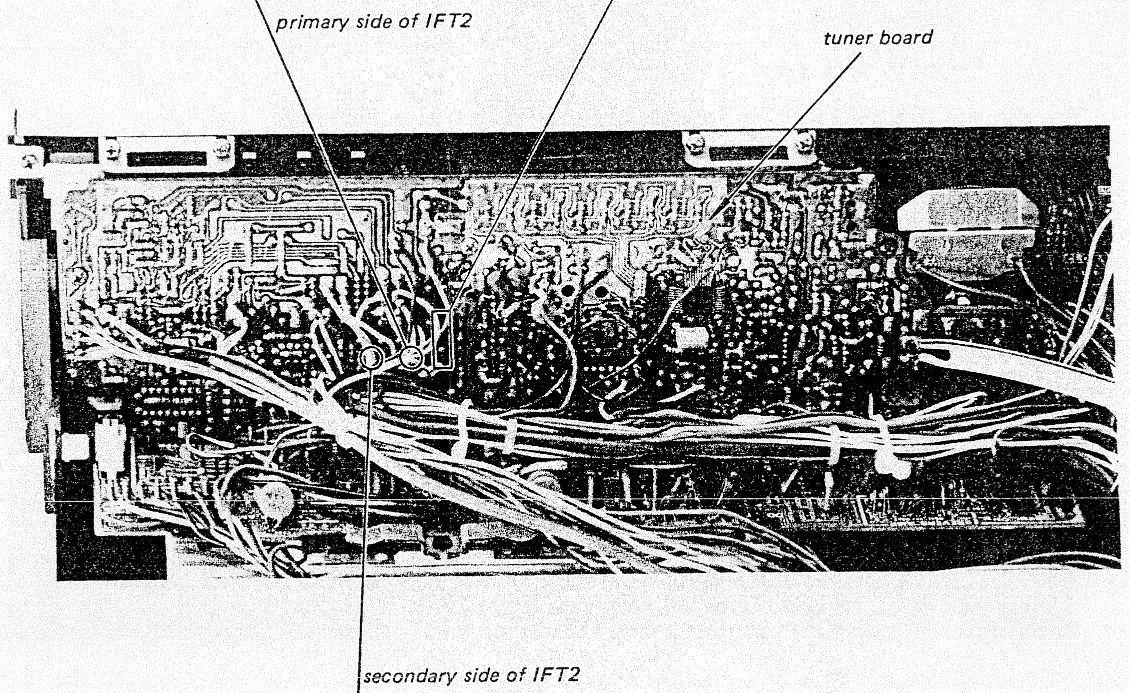
FM Discriminator Alignment 1

Setting: FM switch: ON

Procedure:

1. Set the AUTO TUNING switch to the off-the-air signal.
2. Connect the null-meter as shown on the right side.
3. Adjust the brown core (the primary side) of IFT2 for a medium reading on null-meter.

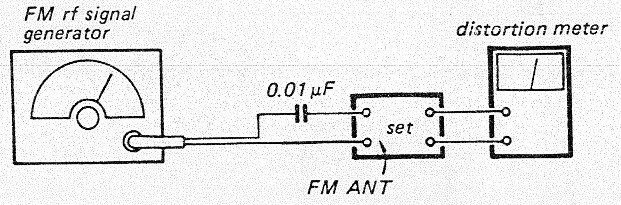

null-meter
(both side of R37)


primary side of IFT2
tuner board
secondary side of IFT2

FM Discriminator Alignment 2

Setting: FM switch: ON

Procedure:


FM rf signal generator
0.01 μF
set
FM ANT
distortion meter

Carrier frequency: 98 MHz
Modulation: 400 Hz, 75 kHz deviation (100%)
Output level: 1 mV (60 dB)

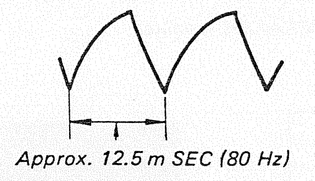
Adjust the black core (the secondary side) of IFT2 for a minimum reading on distortion meter.

UK model (Adjustments for E model: See page 20.)

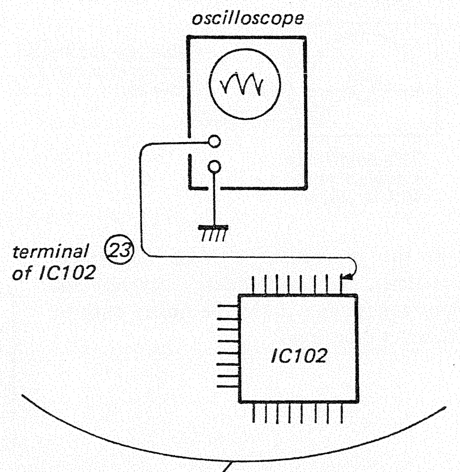
TUNER SECTION

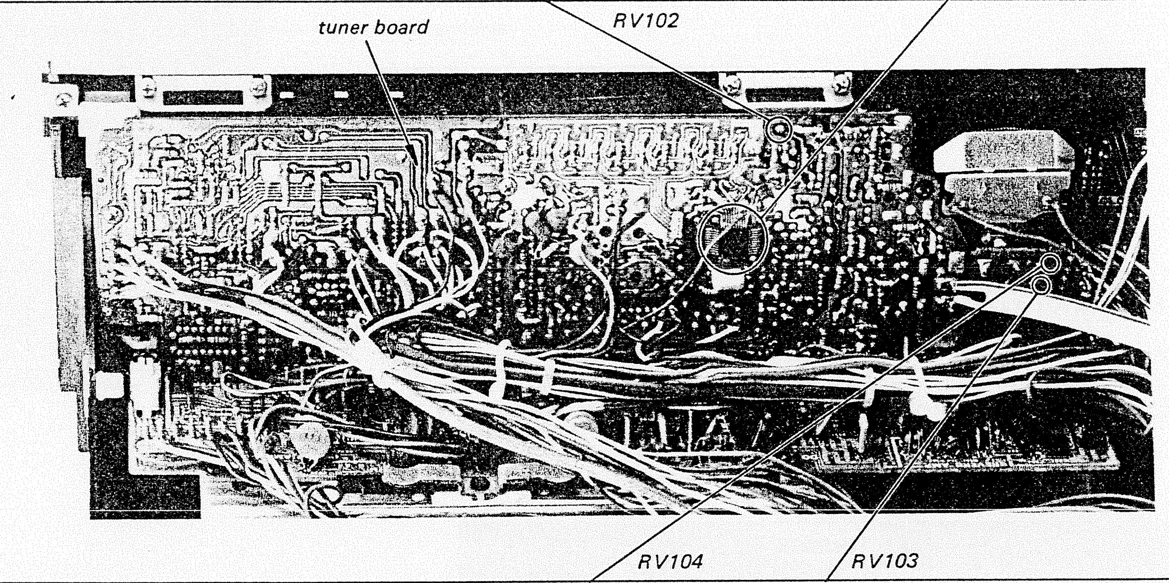
Scan Speed Adjustment

1. Connect the oscilloscope or the frequency counter to the terminal ㉓ of IC102.
2. Adjust RV102 to obtain 80 Hz in SCAN mode.

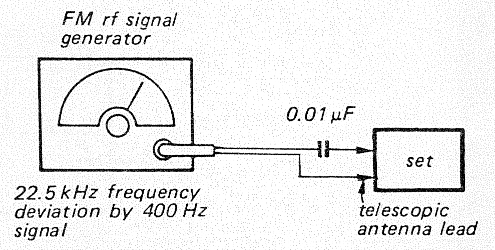

Approx. 12.5 m SEC (80 Hz)

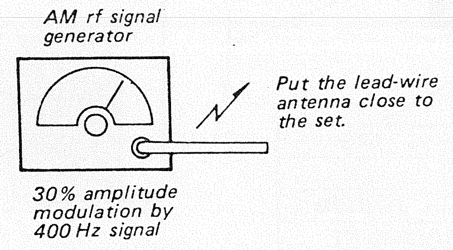
Note: When the frequency counter is used, connect the buffer amplifier (emitter follower, etc.) in series with the counter.


oscilloscope
terminal ㉓ of IC102
IC102

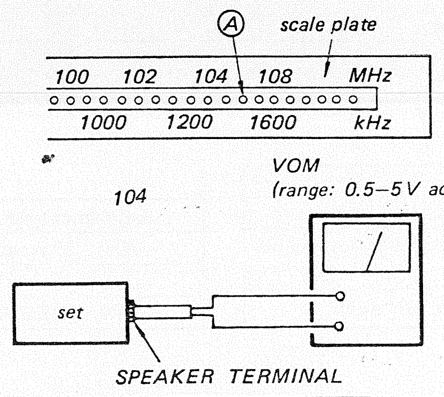

tuner board
RV102
RV104
RV103

Fiber Meter Adjustment


FM rf signal generator
0.01 μF
set
22.5 kHz frequency deviation by 400 Hz signal
telescopic antenna lead


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400 Hz signal

1. Tune the set to 106 MHz signal of FM RF SSG.
2. Adjust RV104 for 106 MHz (Ⓐ) reading on fiber meter.
3. Tune the set to 1400 kHz signal of AM RF SSG.
4. Adjust RV103 for 1400 kHz (Ⓐ) reading on fiber meter.
5. Repeat the steps 1.–4. several times.


Ⓐ
scale plate
100
102
104
108
MHz
1000
1200
1600
kHz
104
VOM (range: 0.5–5 V ac)
set
SPEAKER TERMINAL

4-2. Diagrams for UK model (Diagrams for E model: See page 21.)

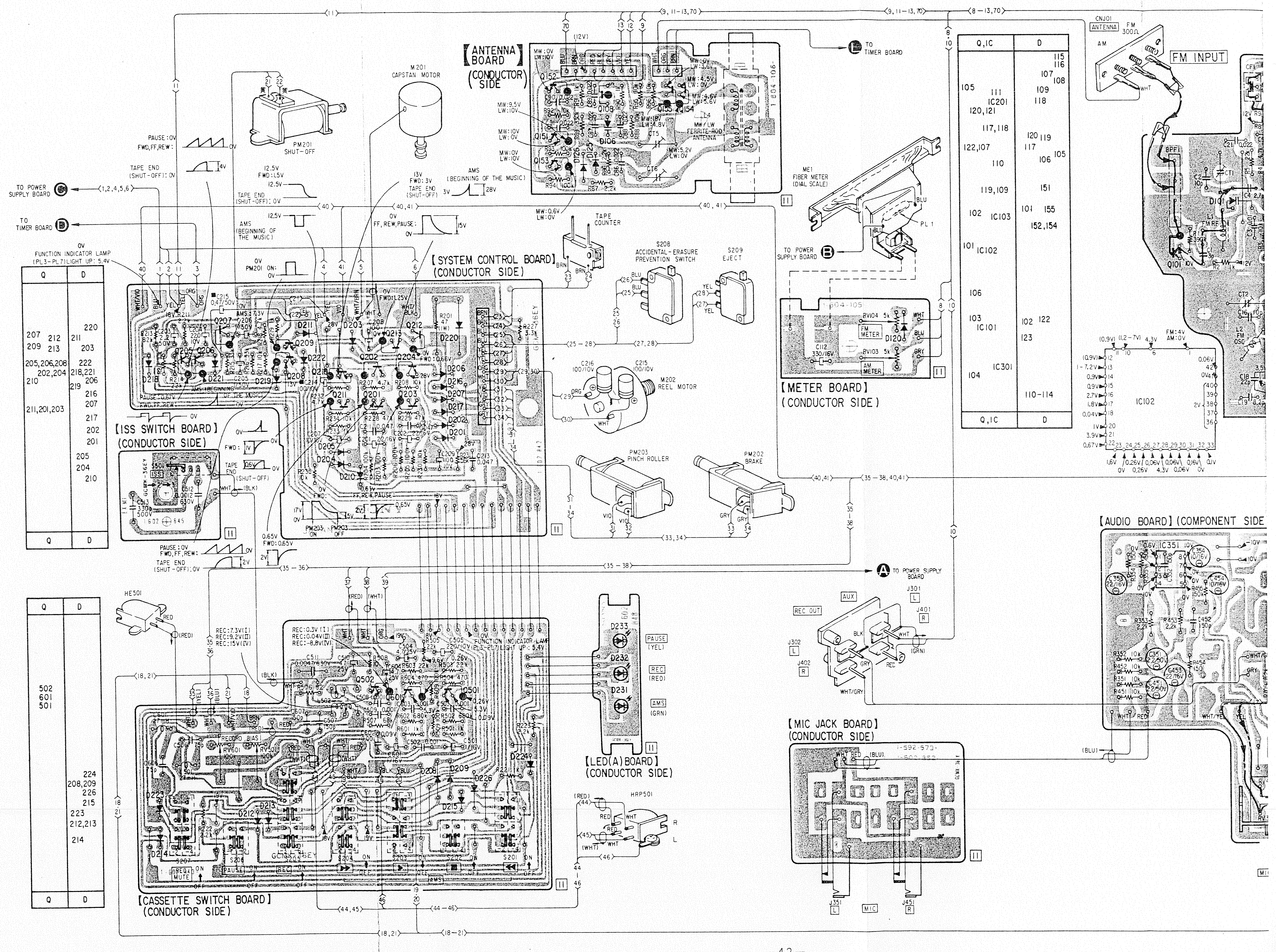
MOUNTING DIAGRAM

– Tuner/Cassette Section –

SEMICONDUCTOR LEAD LAYOUTS: See page 49.

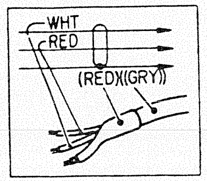
A B C D E F G H

1 2 3 4 5

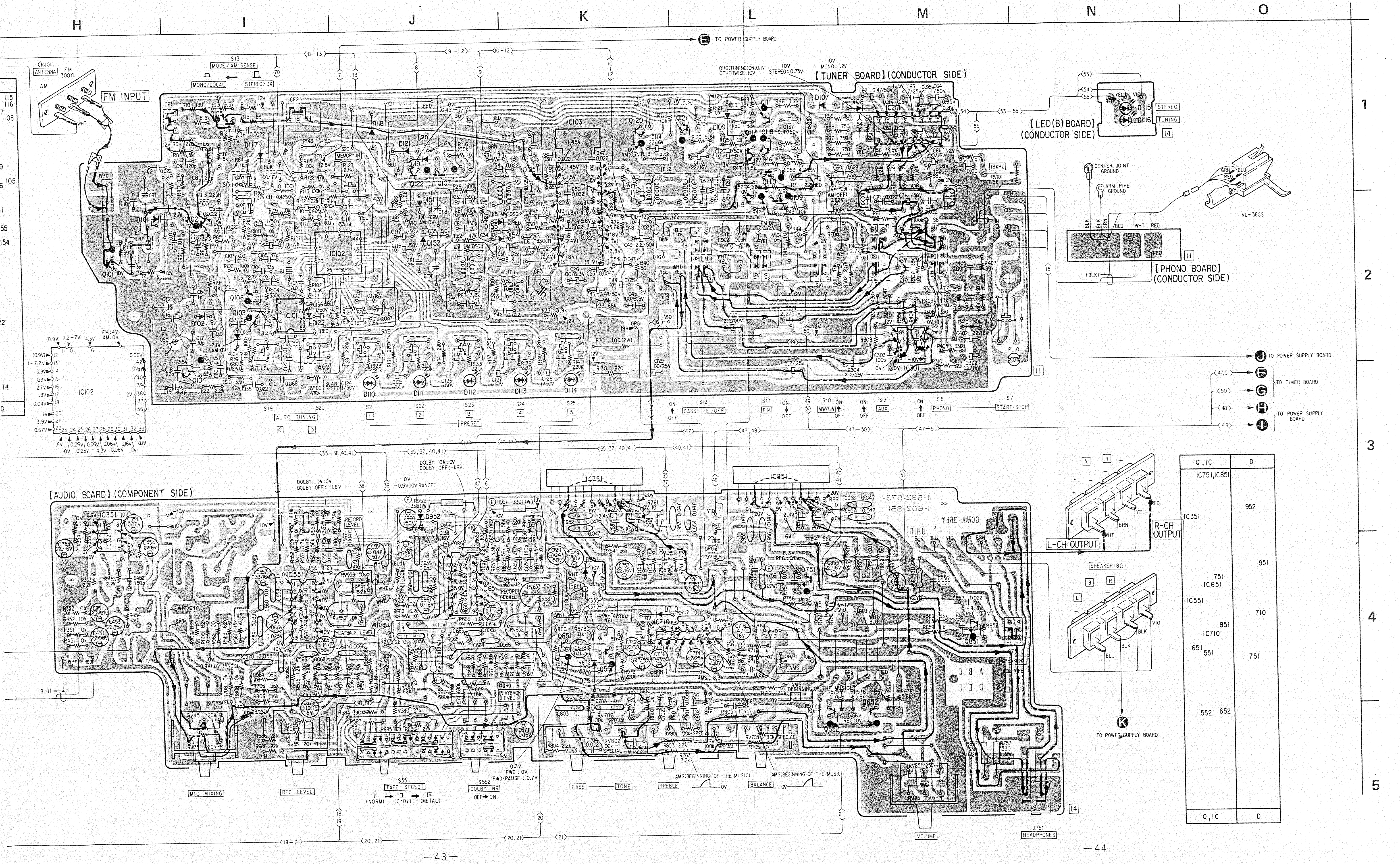

[ANTENNA BOARD] (CONDUCTOR SIDE)
MW/LW FERRITE-ROD ANTENNA
TO TIMER BOARD
TO POWER SUPPLY BOARD
[SYSTEM CONTROL BOARD] (CONDUCTOR SIDE)
M201 CAPSTAN MOTOR
PM201 SHUT-OFF
[ISS SWITCH BOARD] (CONDUCTOR SIDE)
TAPE COUNTER
S208 ACCIDENTAL-ERASURE PREVENTION SWITCH
S209 EJECT
M202 REEL MOTOR
PM203 PINCH ROLLER
PM202 BRAKE
ME1 FIBER METER (DIAL SCALE)
[METER BOARD] (CONDUCTOR SIDE)
FM METER
AM METER
CNJ01 ANTENNA FM 300Ω AM
FM INPUT
IC102
Q, IC
Q
D
HE501
[CASSETTE SWITCH BOARD] (CONDUCTOR SIDE)
[LED(A) BOARD] (CONDUCTOR SIDE)
PAUSE (YEL)
REC (RED)
AMS (GRN)
HRP501
TO POWER SUPPLY BOARD
REC OUT
AUX
J301
J401
J302
J402
[MIC JACK BOARD] (CONDUCTOR SIDE)
J351
MIC
J451
[AUDIO BOARD] (COMPONENT SIDE)

Note:

- Color code of sleeving over the end of the jacket.


WHT
RED
(RED)(GRY)

- [ ] : indicates side identified with part number.
- Ⓕ : fusible resistor.
- ▨ : B + pattern
- ▨ : B – pattern
- ▭ : adjustment for repair.
- ━━▶━━ : signal path
- ━━ ━━▶ : L-CH signal path
- ━ ━ ━▶ : R-CH signal path

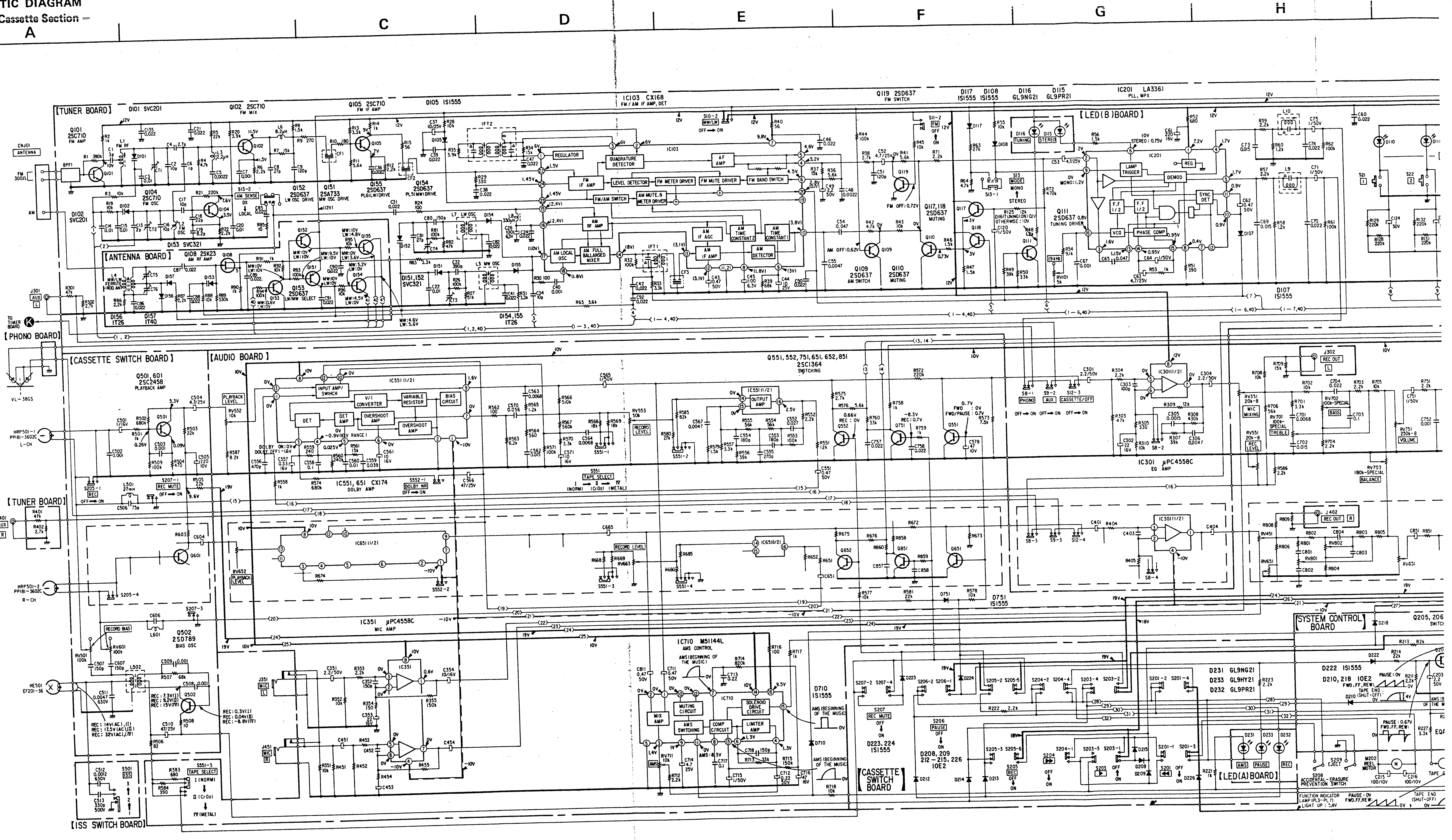

H
I
J
K
L
M
N
O
1
2
3
4
5
TO POWER SUPPLY BOARD
CNJ01 ANTENNA
FM 300Ω
AM
FM INPUT
S13 MODE / AM SENSE
MONO/LOCAL
STEREO/DX
Q116(TUNING):0.1V OTHERWISE:10V
10V STEREO:0.75V
10V MONO:1.2V
【TUNER BOARD】(CONDUCTOR SIDE)
【LED(B) BOARD】(CONDUCTOR SIDE)
STEREO
TUNING
CENTER JOINT GROUND
ARM PIPE GROUND
VL-38GS
【PHONO BOARD】(CONDUCTOR SIDE)
IC101
IC102
IC103
IC201
MEMORY IN
19kHz
PL10
TO POWER SUPPLY BOARD
TO TIMER BOARD
TO POWER SUPPLY BOARD
S19 AUTO TUNING
S20
S21 1
S22 2
S23 3
S24 4
S25 5
PRESET
S12 CASSETTE/OFF
S11 FM
S10 MW/LW
S9 AUX
S8 PHONO
S7 START/STOP
ON OFF
【AUDIO BOARD】(COMPONENT SIDE)
DOLBY ON:0V DOLBY OFF:-1.6V
0V -0.9V(10V RANGE)
IC351
IC551
IC651
IC710
IC751
IC851
RECORD LEVEL
PLAYBACK LEVEL
L-CH OUTPUT
R-CH OUTPUT
SPEAKER (8Ω)
TO POWER SUPPLY BOARD
AMS
AMS(BEGINNING OF THE MUSIC)
MIC MIXING
REC LEVEL
S551 TAPE SELECT
I (NORM) II (CrO2) IV (METAL)
S552 DOLBY NR
OFF→ON
0.7V FWD:0V FWD/PAUSE:0.7V
BASS
TONE
TREBLE
BALANCE
VOLUME
J751 HEADPHONES

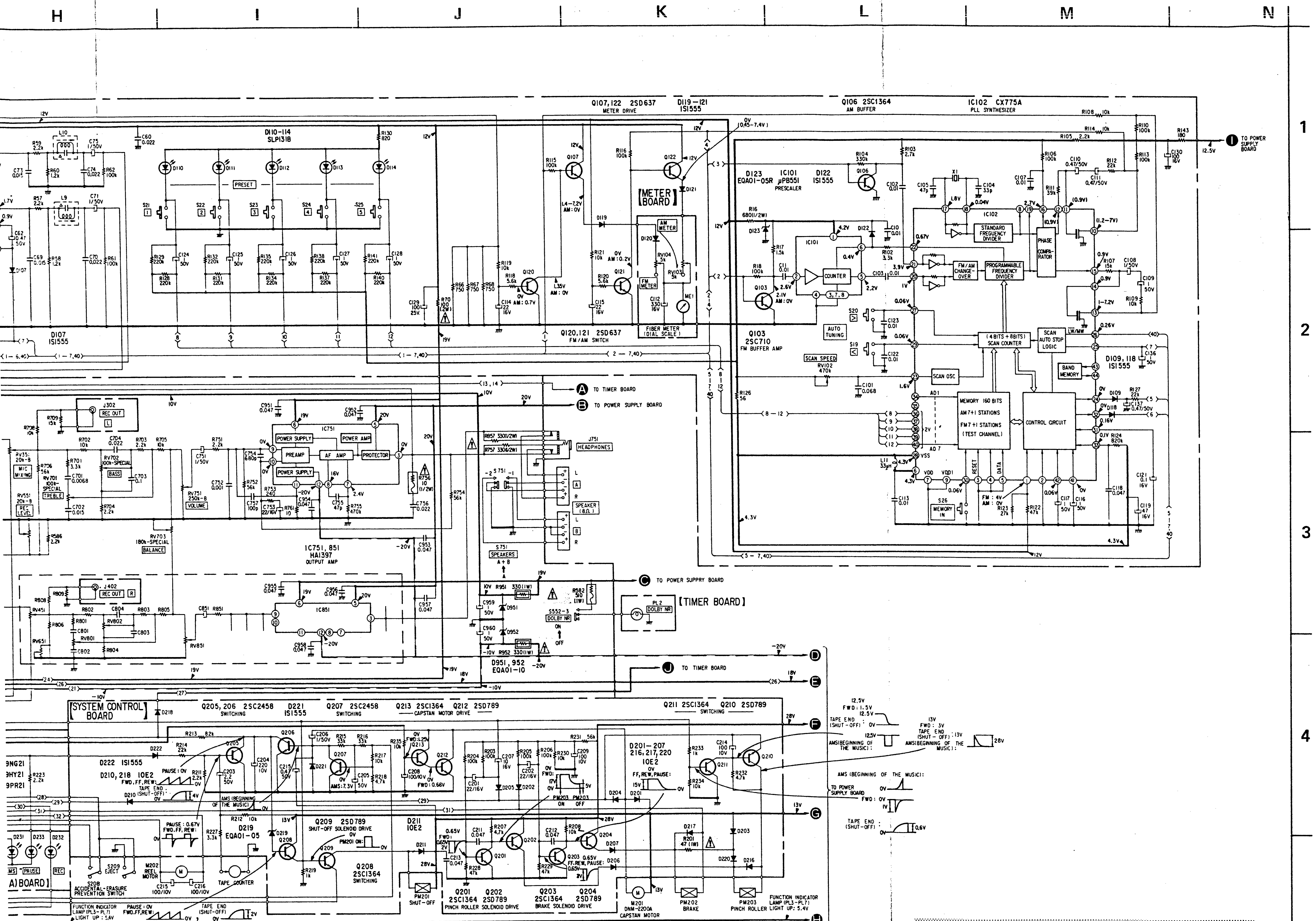
Q,IC	D
IC751,IC851	
	952
IC351	
	951
751	
IC651	
IC551	
	710
851	
IC710	
651 551	751
552 652	
Q,IC	D

K model (Diagrams for E model: See page 25.)

HEMATIC DIAGRAM

uner/Cassette Section —


A
C
D
E
F
G
H
[TUNER BOARD]
[ANTENNA BOARD]
[LED(B)BOARD]
[PHONO BOARD]
[CASSETTE SWITCH BOARD]
[AUDIO BOARD]
[TUNER BOARD]
[ISS SWITCH BOARD]
[SYSTEM CONTROL BOARD]
[CASSETTE SWITCH BOARD]
[LED(A)BOARD]
IC103 CX168 FM/AM IF AMP, DET
IC201 LA3361 PLL, MPX
IC551, 651 CX174 DOLBY AMP
IC351 μPC4558C MIC AMP
IC301 μPC4558C EQ AMP
IC710 M51144L AMS CONTROL
Q551, 552, 751, 651, 652, 851 2SC1364 SWITCHING
Q501, 601 2SC2458 PLAYBACK AMP
Q502 2SD789 BIAS OSC
Q101 2SC710 FM AMP
Q102 2SC710 FM MIX
Q105 2SC710 FM IF AMP
Q119 2SD637 FM SWITCH
Q111 2SD637 TUNING DRIVER
REGULATOR
QUADRATURE DETECTOR
AF AMP
FM IF AMP
LEVEL DETECTOR
FM METER DRIVER
FM MUTE DRIVER
FM BAND SWITCH
FM/AM SWITCH
AM MUTE & METER DRIVER
AM RF AMP
AM LOCAL OSC
AM FULL BALLANSED MIXER
AM IF AGC
AM IF AMP
AM TIME CONSTANT 2
AM TIME CONSTANT 1
AM DETECTOR
VCO
PHASE COMP
LAMP TRIGGER
DEMOD
SYNC DET
INPUT AMP/SWITCH
V/I CONVERTER
VARIABLE RESISTOR
BIAS CIRCUIT
DET
AMP
OVERSHOOT AMP
OUTPUT AMP
MIX AMP
MUTING CIRCUIT
AMS SWITCHING
COMP CIRCUIT
SOLENOID DRIVE CIRCUIT
LIMITER AMP
TAPE SELECT
RECORD LEVEL
PLAYBACK LEVEL
RECORD BIAS
REC OUT
VOLUME
BALANCE
TREBLE
BASS
MIC MIXING
REC LEVEL
TO TIMER BOARD
VL-38GS
HRP501-1 PP181-3602C L-CH
HRP501-2 PP181-3602C R-CH
HE501 EF201-36
M202 REEL MOTOR
S208 ACCIDENTAL-ERASURE PREVENTION SWITCH
FUNCTION INDICATOR LAMP (PL3-PL7) LIGHT UP: 5.4V
D231 GL9NG21
D233 GL9HY21
D232 GL9PR21
D222 1S1555
D210, 218 10E2


H
I
J
K
L
M
N
1
2
3
4
5
Q107,122 2SD637 METER DRIVE
D119–121 1S1555
Q106 2SC1364 AM BUFFER
IC102 CX775A PLL SYNTHESIZER
D110–114 SLP131B
PRESET
METER BOARD
AM METER
FM METER
FIBER METER (DIAL SCALE)
Q120,121 2SD637 FM/AM SWITCH
D123 EQA01-05R
IC101 μPB551 PRESCALER
D122 1S1555
COUNTER
STANDARD FREQUENCY DIVIDER
FM/AM CHANGE-OVER
PROGRAMMABLE FREQUENCY DIVIDER
PHASE COMPARATOR
Q103 2SC710 FM BUFFER AMP
AUTO TUNING
SCAN SPEED
SCAN OSC
(4 BITS+8 BITS) SCAN COUNTER
SCAN AUTO STOP LOGIC
BAND MEMORY
MEMORY 160 BITS AM 7+1 STATIONS FM 7+1 STATIONS (TEST CHANNEL)
CONTROL CIRCUIT
MEMORY IN
D109,118 1S1555
TO POWER SUPPLY BOARD
TO TIMER BOARD
TO POWER SUPPLY BOARD
J302 REC OUT
IC751
POWER SUPPLY
POWER AMP
PREAMP
AF AMP
PROTECTOR
BASS
TREBLE
VOLUME
BALANCE
MIC MIXING
REC LEVEL
IC751, 851 HA1397 OUTPUT AMP
J751 HEADPHONES
S751 SPEAKERS A+B
SPEAKER (8Ω)
J402 REC OUT
IC851
TO POWER SUPPRY BOARD
TIMER BOARD
DOLBY NR
D951, 952 EQA01-10
TO TIMER BOARD
SYSTEM CONTROL BOARD
Q205, 206 2SC2458 SWITCHING
D221 1S1555
Q207 2SC2458 SWITCHING
Q213 2SC1364 Q212 2SD789 CAPSTAN MOTOR DRIVE
Q211 2SC1364 Q210 2SD789 SWITCHING
D222 1S1555
D210, 218 10E2
D201–207 216, 217, 220 10E2
D219 EQA01-05
Q209 2SD789 SHUT-OFF SOLENOID DRIVE
Q208 2SC1364 SWITCHING
D211 10E2
PM201 SHUT-OFF
Q201 Q202 2SC1364 2SD789 PINCH ROLLER SOLENOID DRIVE
Q203 Q204 2SC1364 2SD789 BRAKE SOLENOID DRIVE
M201 DNM-2200A CAPSTAN MOTOR
PM202 BRAKE
PM203 PINCH ROLLER
FUNCTION INDICATOR LAMP (PL3–PL7) LIGHT UP: 5.4V
S208 ACCIDENTAL-ERASURE PREVENTION SWITCH
M202 REEL MOTOR
TAPE COUNTER
TAPE END (SHUT-OFF)
AMS (BEGINNING OF THE MUSIC)
TO POWER SUPPLY BOARD

Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼ W unless otherwise noted. kΩ : 1000 Ω, MΩ : 1000 kΩ
- ▭ : nonflammable resistor.
- ⏛ : fusible resistor.
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——: B+ bus.
- – – –: B– bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (20 kΩ/V).
  ( ) : AM
  no mark: FM
- Voltage variations may be noted due to normal production tolerances.
- AC voltage readings in the bias oscillator with a VTVM.
- Switch

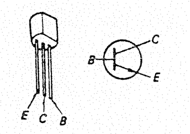
Ref. No.	Description	Position
S8	PHONO	OFF
S13	MODE/AM SENSE	STEREO/DX
S19	AUTO TUNING [<]	OFF
S20	AUTO TUNING [>]	OFF
S21–25	PRESET 1 – 5	OFF
S26	MEMORY IN	OFF
S201	◀◀ REW	OFF
S203	▶ PLAY	ON
S204	▶▶ F.F.	OFF
S205	REC	OFF
S206	PAUSE	OFF
S207	REC MUTE	OFF
S208	ACCIDENTAL-ERASURE PREVENTION	OFF
S209	EJECT	OFF
S501	ISS	I
S551	TAPE SELECT	I (NORM)
S552	DOLBY NR	OFF
S751	SPEAKERS	A

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

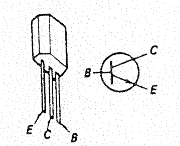
UK model (Layouts for E model: See page 29.)

SEMICONDUCTOR LEAD LAYOUTS

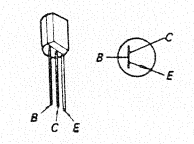
2SC1173
2SC1364
2SC1475
2SD438
2SD789



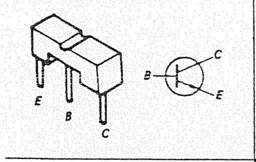
2SC2458



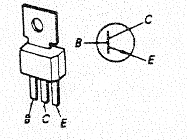
2SC710-14



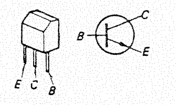
2SD637



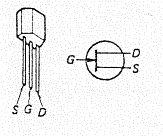
2SD880



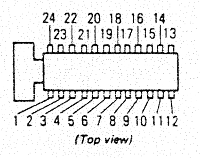
2SD774



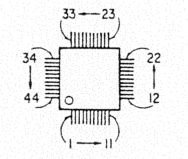
2SK23A834



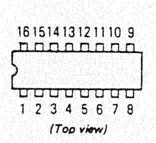
CX168


24 22 20 18 16 14
23 21 19 17 15 13
1 2 3 4 5 6 7 8 9 10 11 12
(Top view)

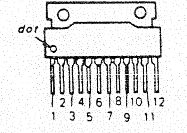
CX775
CX775A
CX7904


33 — 23
34
22
44
12
1 — 11

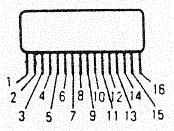
CX174
LA3361


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

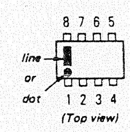
HA1397


dot
2 4 6 8 10 12
1 3 5 7 9 11

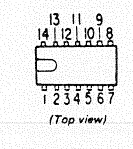
M51144L


1
2 4 6 8 10 12 14 16
3 5 7 9 11 13 15

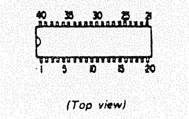
NJM4558D


8 7 6 5
line
or
dot
1 2 3 4
(Top view)

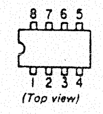
SN16680N


13 11 9
14 12 10 8
1 2 3 4 5 6 7
(Top view)

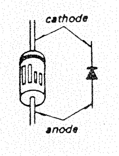
TMS1943N2L


40 35 30 25 21
1 5 10 15 20
(Top view)

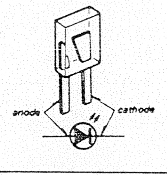
µPB551C
µPB552C
µPC4558C


8 7 6 5
1 2 3 4
(Top view)

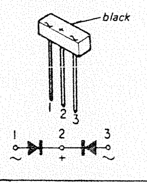
EQA01-05
EQA01-10
EQA01-13R
EQA01-20R
EQB01-05
EQB01-10
EQB01-13
EQB01-14
EQB01-15
EQB01-20
EQB01-24


cathode
anode

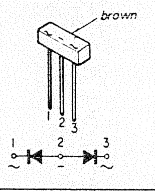
GL9HY21
GL9NG21
GL9NG31
GL9PR21


anode
cathode

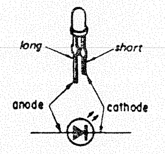
MI151
S3VC40


black
1 2 3
1 2 3

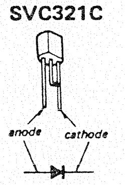
MI151R
S3VC40R


brown
1 2 3
1 2 3

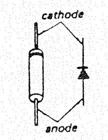
SLP131B


long
short
anode
cathode

SVC201
SVC321C

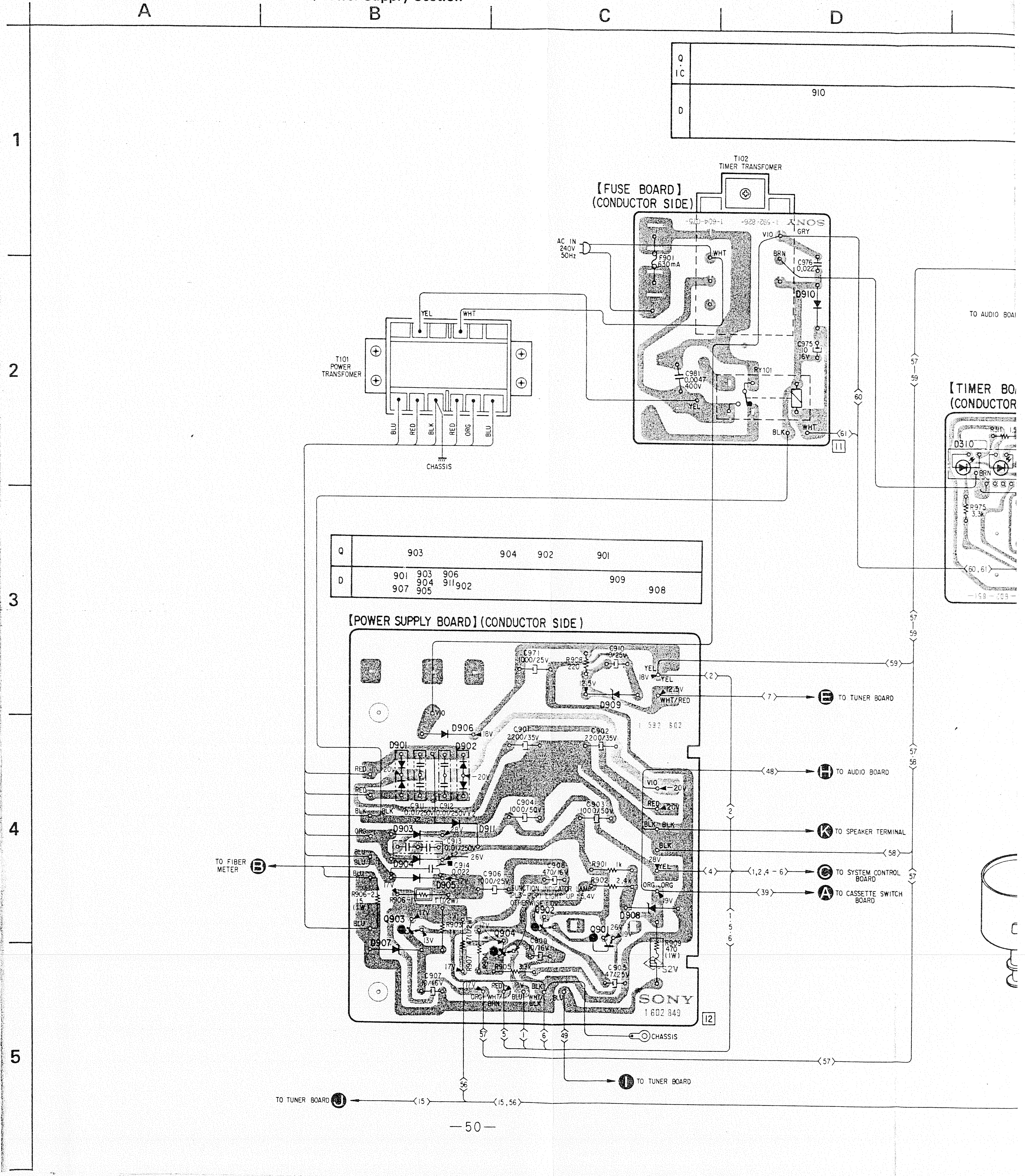

anode
cathode

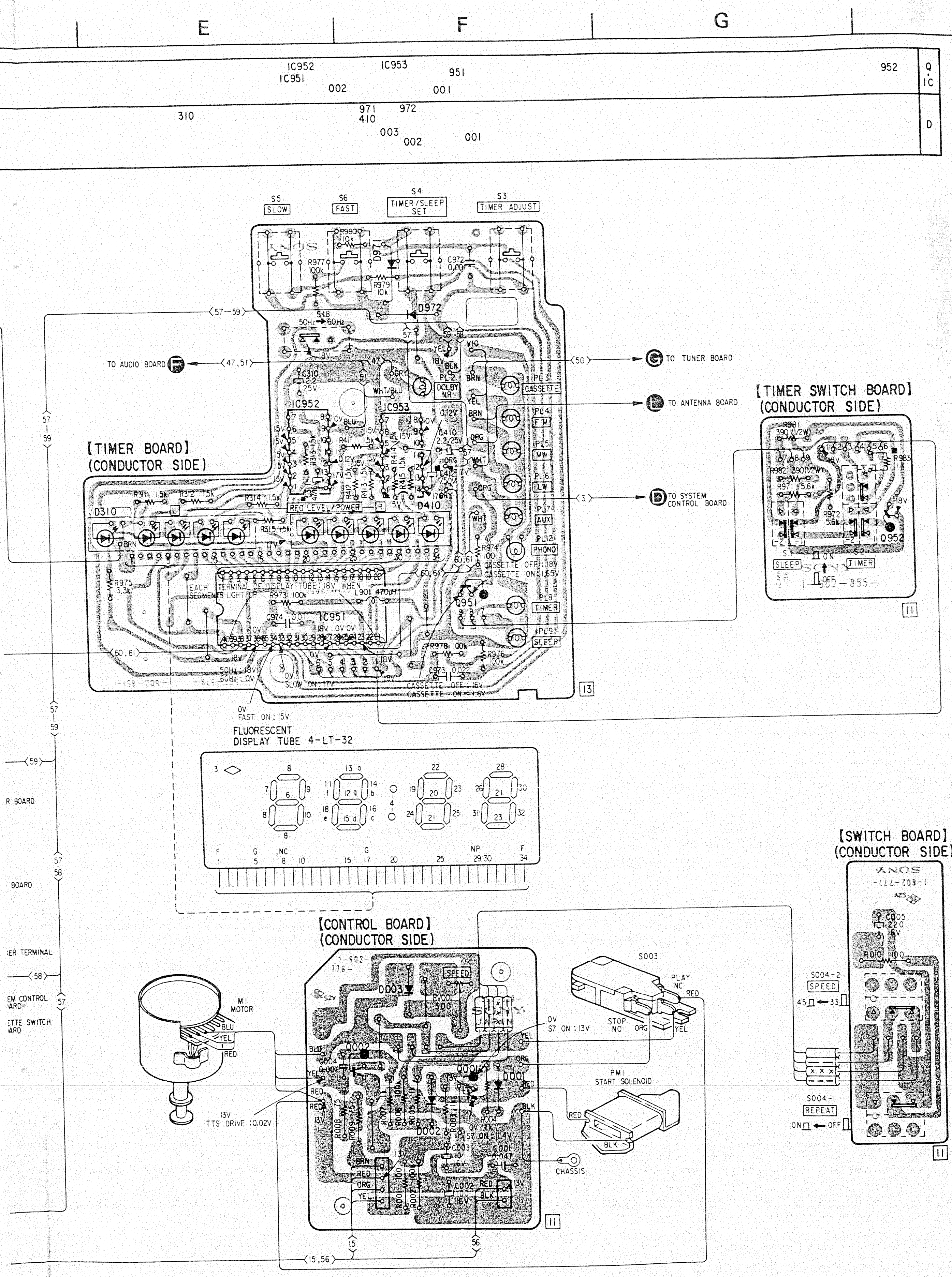
1T26
10E2
1S1555

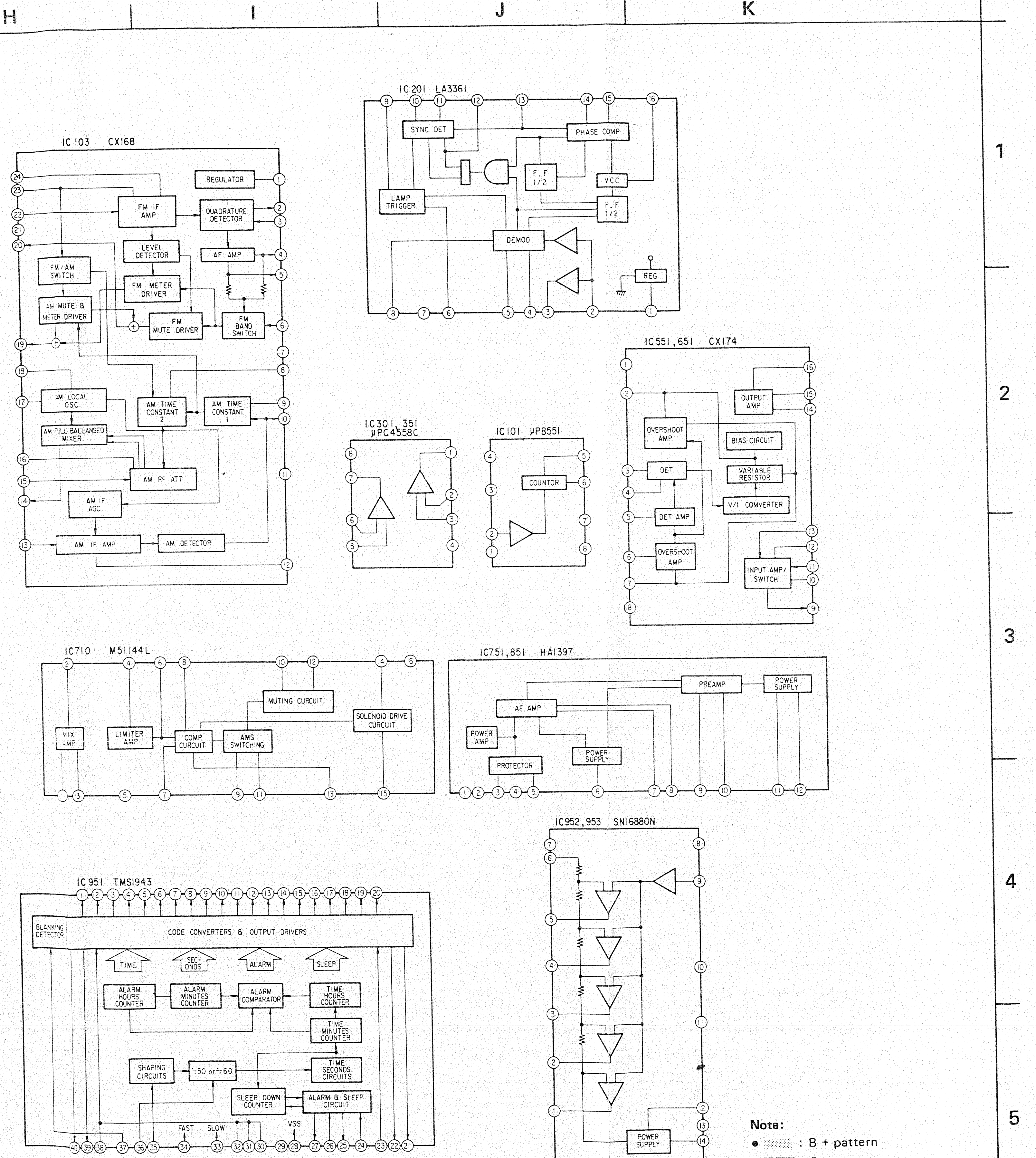

cathode
anode

UK model (Diagrams for E model: See page 30.)

MOUNTING DIAGRAM — Timer/Power Supply Section —


A
B
C
D
1
2
3
4
5
Q
IC
D
910
T102
TIMER TRANSFOMER
[FUSE BOARD]
(CONDUCTOR SIDE)
AC IN 240V 50Hz
F901 630mA
VIO
GRY
BRN
WHT
C976 0.022
D910
C975 10 16V
C981 0.0047 400V
RY101
YEL
BLK
11
T101 POWER TRANSFOMER
YEL
WHT
BLU
RED
BLK
RED
ORG
BLU
CHASSIS
TO AUDIO BOARD
[TIMER BOARD]
(CONDUCTOR SIDE)
D310
R975 3.3k
Q
903
904
902
901
D
901 903 906
904 911 902
907 905
909
908
[POWER SUPPLY BOARD] (CONDUCTOR SIDE)
C971 1000/25V
R908 220
C910 47/25V
12.5V
18V
WHT/RED
D909
D906
C901 2200/35V
C902 2200/35V
D901
D902
C904 1000/50V
C903 1000/50V
C911
C912
D903
D911
C913 0.01/250V
D904
C914 0.022
D905
C906 1000/25V
C908 470/16V
R901 1k
R902 2.4k
Q903
Q907
Q904
Q902
Q901
D908
R905
C907 10/16V
C905 47/25V
R909 470 1W
52V
SONY
1-602-849
12
RED
ORG
BLU
VIO
-20V
RED
+20V
BLK
YEL
ORG
(2)
(7)
E TO TUNER BOARD
(48)
H TO AUDIO BOARD
K TO SPEAKER TERMINAL
(58)
(4)
(1,2,4 – 6)
C TO SYSTEM CONTROL BOARD
(39)
A TO CASSETTE SWITCH BOARD
(59)
TO FIBER METER B
57
3
1
6
39
CHASSIS
(57)
I TO TUNER BOARD
TO TUNER BOARD J
(15)
(15, 56)
56
60
61
57
58
59


E
F
G
H
IC952
IC951
IC953
951
952
002
001
971
972
410
310
003
002
001
Q
IC
D
S5 SLOW
S6 FAST
S4 TIMER/SLEEP SET
S3 TIMER ADJUST
【TIMER BOARD】
(CONDUCTOR SIDE)
TO AUDIO BOARD F
TO TUNER BOARD G
TO ANTENNA BOARD E
TO SYSTEM CONTROL BOARD D
S48 50Hz 60Hz
D972
IC952
IC953
IC951
D310
D410
Q951
EACH TERMINAL IS DISPLAY TUBE 18V WHEN SEGMENTS LIGHT UP
CASSETTE OFF: 18V
CASSETTE ON: 1.65V
PL1 DOLBY NR
PL3 CASSETTE
PL4 FM
PL5 MW
PL6 LW
PL7 AUX
PL12 PHONO
PL8 TIMER
PL9 SLEEP
RED LEVEL/POWER
0V FAST ON: 15V
SLOW ON: 17V
【TIMER SWITCH BOARD】
(CONDUCTOR SIDE)
Q952
SLEEP
TIMER
FLUORESCENT DISPLAY TUBE 4-LT-32
【SWITCH BOARD】
(CONDUCTOR SIDE)
S004-2 SPEED
45 33
S004-1 REPEAT
ON OFF
【CONTROL BOARD】
(CONDUCTOR SIDE)
M1 MOTOR
S003
PLAY NC
STOP NO
0V S7 ON: 13V
PM1 START SOLENOID
CHASSIS
13V TTS DRIVE: 0.02V
D001
D002
D003
Q001
Q002
Q003
Q004
SPEED
13
11


I
J
K
1
2
3
4
5
IC103 CX168
REGULATOR
FM IF AMP
QUADRATURE DETECTOR
LEVEL DETECTOR
AF AMP
FM/AM SWITCH
FM METER DRIVER
AM MUTE & METER DRIVER
FM MUTE DRIVER
FM BAND SWITCH
AM LOCAL OSC
AM TIME CONSTANT 2
AM TIME CONSTANT 1
AM FULL BALLANSED MIXER
AM RF ATT
AM IF AGC
AM IF AMP
AM DETECTOR
IC201 LA3361
SYNC DET
PHASE COMP
LAMP TRIGGER
F.F 1/2
VCC
DEMOD
REG
IC301,351 μPC4558C
IC101 μPB551
COUNTOR
IC551,651 CX174
OUTPUT AMP
OVERSHOOT AMP
BIAS CIRCUIT
DET
VARIABLE RESISTOR
DET AMP
V/I CONVERTER
INPUT AMP/SWITCH
IC710 M51144L
MUTING CURCUIT
SOLENOID DRIVE CURCUIT
MIX AMP
LIMITER AMP
COMP CURCUIT
AMS SWITCHING
IC751,851 HA1397
PREAMP
POWER SUPPLY
AF AMP
POWER AMP
PROTECTOR
IC952,953 SN16880N
IC951 TMS1943
BLANKING DETECTOR
CODE CONVERTERS & OUTPUT DRIVERS
TIME
SEC-ONDS
ALARM
SLEEP
ALARM HOURS COUNTER
ALARM MINUTES COUNTER
ALARM COMPARATOR
TIME HOURS COUNTER
TIME MINUTES COUNTER
SHAPING CIRCUITS
÷50 or ÷60
TIME SECONDS CIRCUITS
SLEEP DOWN COUNTER
ALARM & SLEEP CIRCUIT
FAST
SLOW
VSS

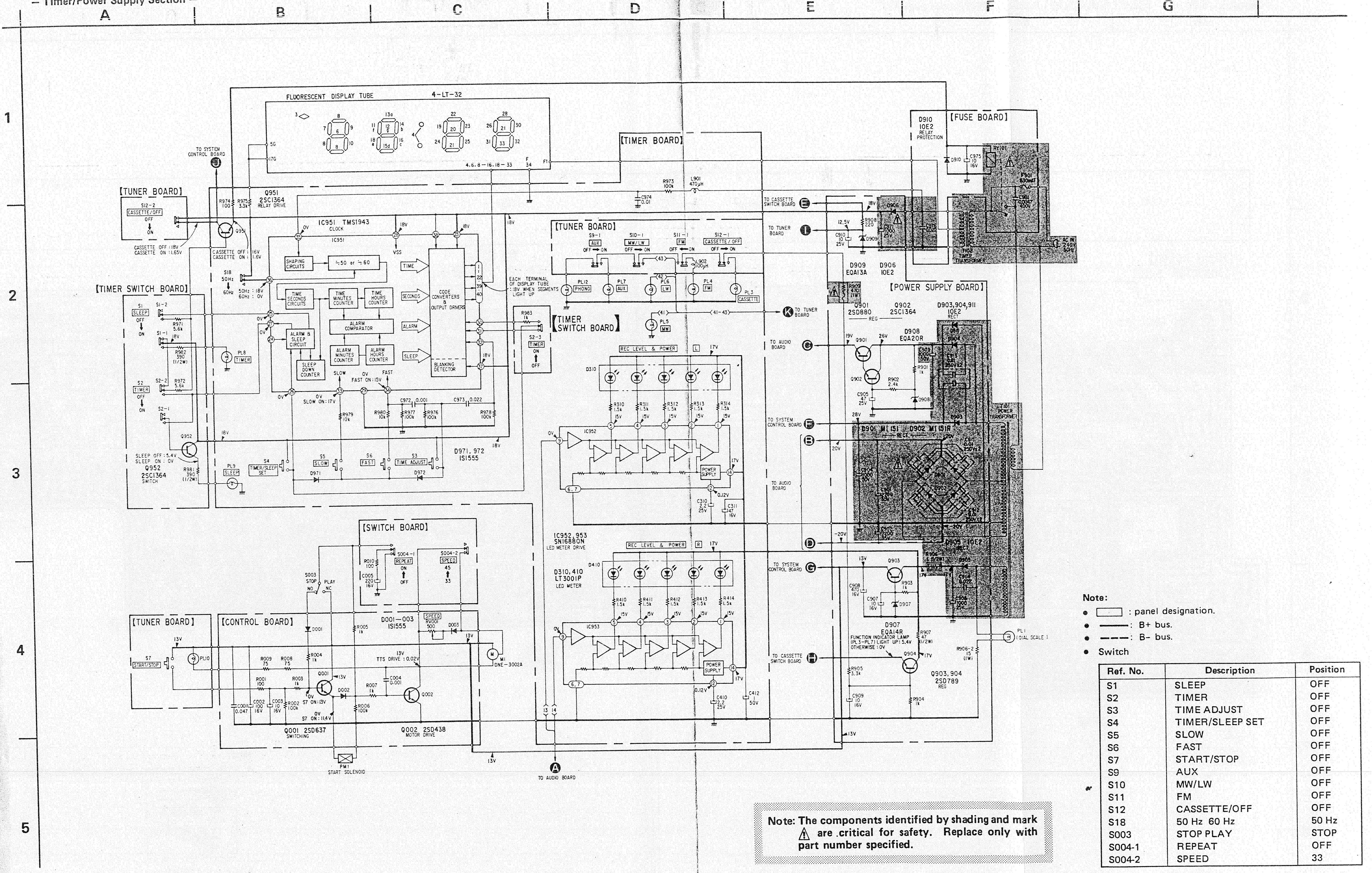
Note:

- ▨ : B + pattern
- ▨ : B − pattern
- ☐ : adjustment for repair.

UK model (Diagrams for E model: See page 33.)

SCHEMATIC DIAGRAMS

– Timer/Power Supply Section –


A
B
C
D
E
F
G
1
2
3
4
5
FLUORESCENT DISPLAY TUBE 4-LT-32
TO SYSTEM CONTROL BOARD
[TUNER BOARD]
S12-2 CASSETTE/OFF
Q951 2SC1364 RELAY DRIVE
IC951 TMS1943 CLOCK
SHAPING CIRCUITS
÷50 or ÷60
TIME SECONDS CIRCUITS
TIME MINUTES COUNTER
TIME HOURS COUNTER
ALARM COMPARATOR
ALARM & SLEEP CIRCUIT
SLEEP DOWN COUNTER
ALARM MINUTES COUNTER
ALARM HOURS COUNTER
CODE CONVERTERS & OUTPUT DRIVERS
BLANKING DETECTOR
[TIMER SWITCH BOARD]
S1 SLEEP
S2 TIMER
S18 50Hz 60Hz
Q952 2SC1364 SWITCH
SLEEP OFF : 5.4V SLEEP ON : 0V
S4 TIMER/SLEEP SET
S5 SLOW
S6 FAST
S3 TIME ADJUST
D971, 972 IS1555
EACH TERMINAL OF DISPLAY TUBE : 18V WHEN SEGMENTS LIGHT UP
[TIMER BOARD]
[TIMER SWITCH BOARD]
S2-3 TIMER
S9-1 AUX
S10-1 MW/LW
S11-1 FM
S12-1 CASSETTE/OFF
PL12 PHONO
PL7 AUX
PL6 LW
PL4 FM
PL3 CASSETTE
PL5 MW
REC LEVEL & POWER
IC952
IC952, 953 SN16880N LED METER DRIVE
D310, 410 LT3001P LED METER
IC953
[SWITCH BOARD]
S004-1 REPEAT
S004-2 SPEED
S003 STOP PLAY
[TUNER BOARD]
S7 START/STOP
[CONTROL BOARD]
D001-003 IS1555
Q001 2SD637 SWITCHING
Q002 2SD438 MOTOR DRIVE
M1 DNE-3002A
PM1 START SOLENOID
TO AUDIO BOARD
[FUSE BOARD]
D910 10E2 RELAY PROTECTION
F901 630mA
AC IN 240V 50Hz
T902 TIMER TRANSFORMER
TO CASSETTE SWITCH BOARD
TO TUNER BOARD
TO AUDIO BOARD
TO SYSTEM CONTROL BOARD
TO CASSETTE SWITCH BOARD
[POWER SUPPLY BOARD]
D909 EQA13A
D906 10E2
Q901 2SD880 REG
Q902 2SC1364
D903, 904, 911 10E2 RECT
D908 EQA20R
D901 M1 151 D902 M1 151R RECT
T901 POWER TRANSFORMER
D905 10E2
Q903
D907 EQA14R
FUNCTION INDICATOR LAMP (PL3-PL7) LIGHT UP: 5.4V OTHERWISE: 0V
Q903, 904 2SD789 REG
PL1 DIAL SCALE 1

Note:

- ▭ : panel designation.
- ——: B+ bus.
- - - -: B- bus.
- Switch

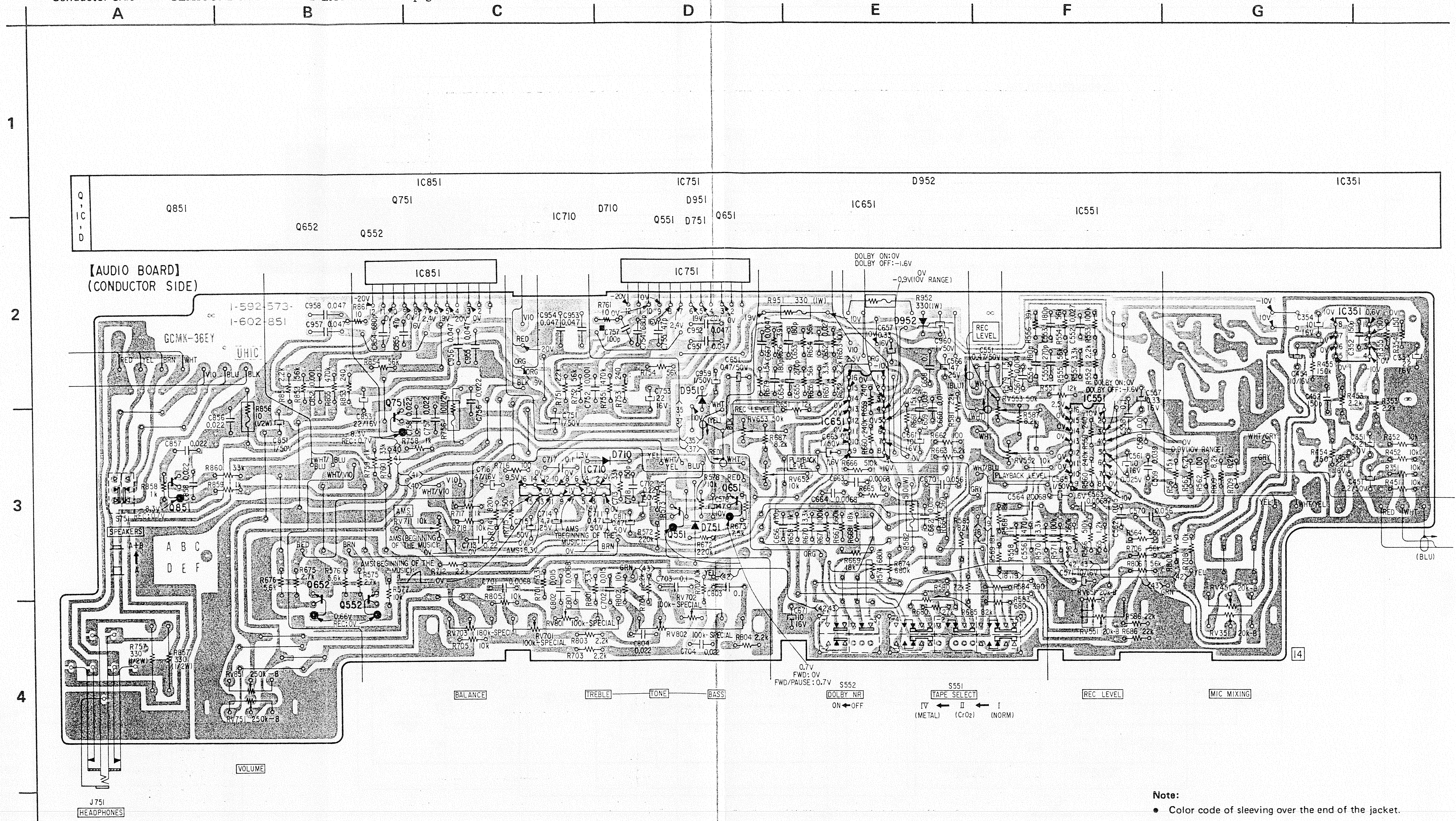
Ref. No.	Description	Position
S1	SLEEP	OFF
S2	TIMER	OFF
S3	TIME ADJUST	OFF
S4	TIMER/SLEEP SET	OFF
S5	SLOW	OFF
S6	FAST	OFF
S7	START/STOP	OFF
S9	AUX	OFF
S10	MW/LW	OFF
S11	FM	OFF
S12	CASSETTE/OFF	OFF
S18	50 Hz 60 Hz	50 Hz
S003	STOP PLAY	STOP
S004-1	REPEAT	OFF
S004-2	SPEED	33

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

UK model (Diagrams for E model: See page 35.)

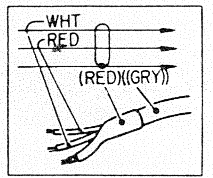
AUDIO BOARD

– Conductor Side – SEMICONDUCTOR LEAD LAYOUTS: See page 49.


A
B
C
D
E
F
G
1
2
3
4
5
Q
IC
D
Q851
Q652
Q552
Q751
IC851
IC710
D710
Q551
IC751
D951
D751
Q651
IC651
D952
IC551
IC351
【AUDIO BOARD】
(CONDUCTOR SIDE)
1-592-573-
1-602-851
GCMK-36EY
DOLBY ON:0V
DOLBY OFF:-1.6V
0V
-0.9V(10V RANGE)
SPEAKERS
REC LEVEL
PLAYBACK LEVEL
AMS
AMS(BEGINNING OF THE MUSIC)
0.7V
FWD:0V
FWD/PAUSE:0.7V
S552
DOLBY NR
ON ← OFF
S551
TAPE SELECT
IV ← II ← I
(METAL) (CrO2) (NORM)
BALANCE
TREBLE
TONE
BASS
REC LEVEL
MIC MIXING
VOLUME
J751
HEADPHONES
(BLU)
14

Note:

- Color code of sleeving over the end of the jacket.


WHT
RED
(RED)(GRY)

- ░ : B + pattern
- ▒ : B – pattern
- ☐ : adjustment for repair.

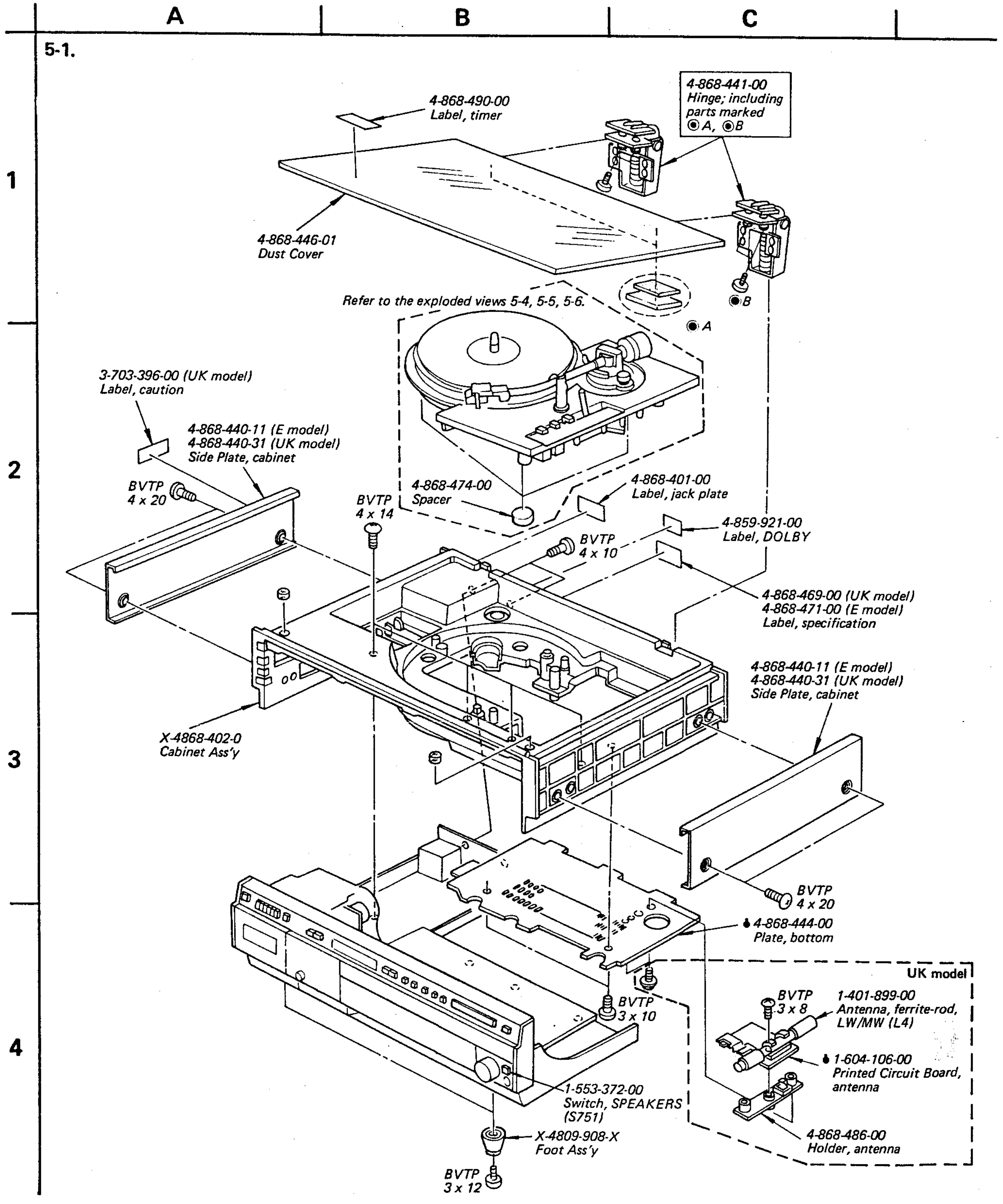
SECTION 5

EXPLODED VIEWS

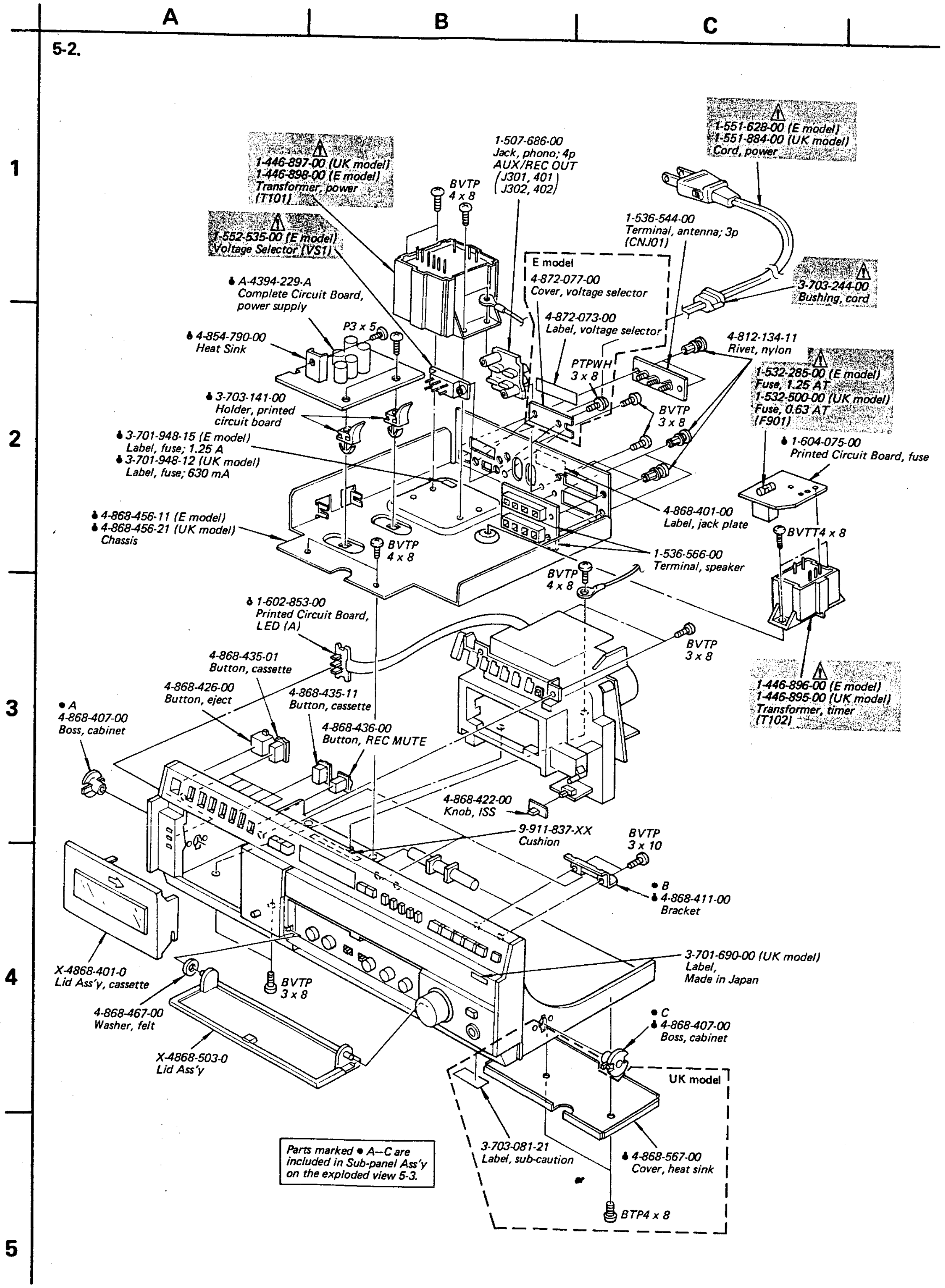
Note:
- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted. (-) = slotted head
- (□□T) shows the number of coils in spring.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

5-1.

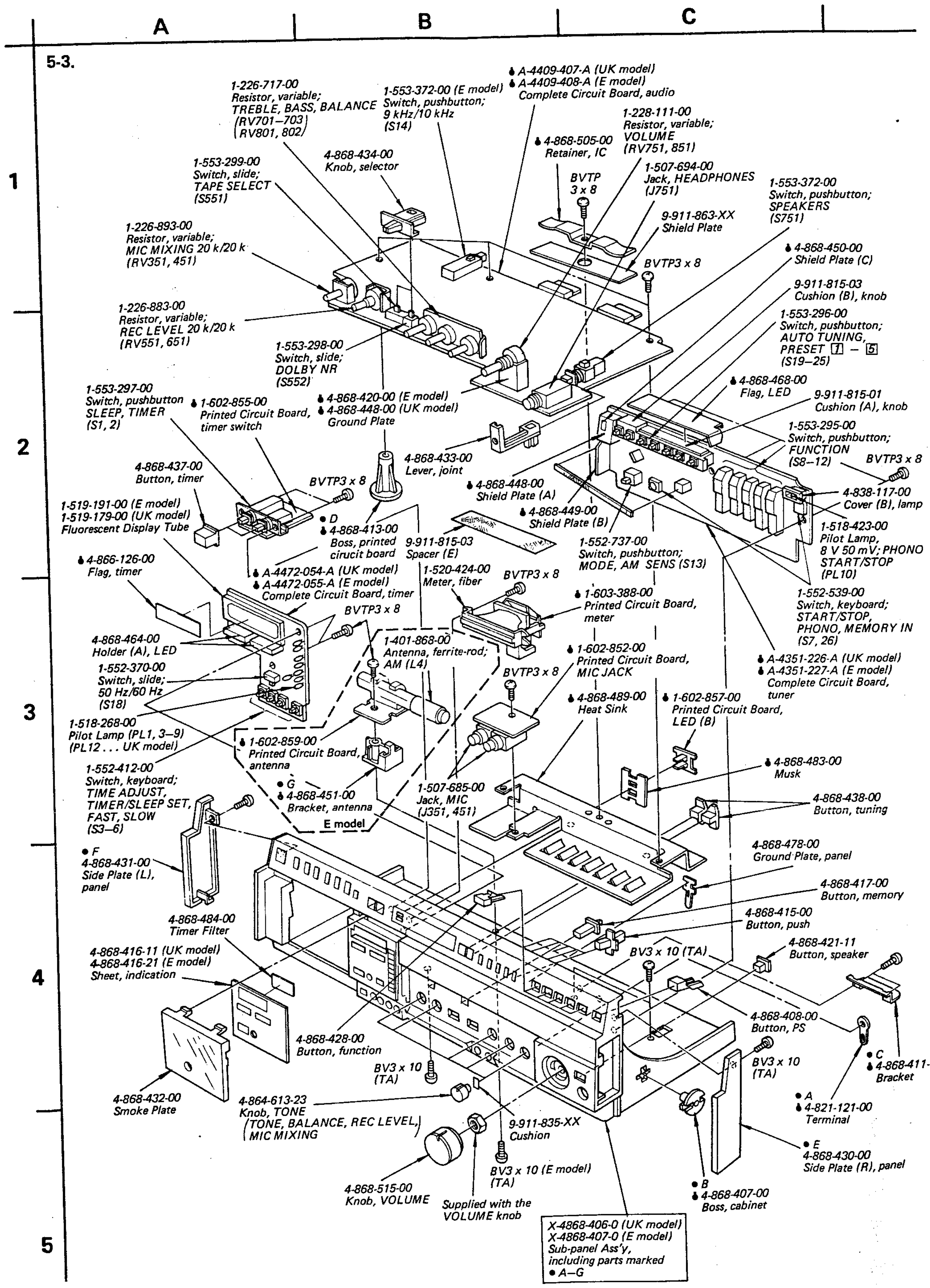

A
B
C
1
2
3
4
4-868-490-00
Label, timer
4-868-441-00
Hinge; including parts marked ●A, ●B
4-868-446-01
Dust Cover
Refer to the exploded views 5-4, 5-5, 5-6.
●B
●A
3-703-396-00 (UK model)
Label, caution
4-868-440-11 (E model)
4-868-440-31 (UK model)
Side Plate, cabinet
BVTP
4 x 20
BVTP
4 x 14
4-868-474-00
Spacer
4-868-401-00
Label, jack plate
4-859-921-00
Label, DOLBY
BVTP
4 x 10
4-868-469-00 (UK model)
4-868-471-00 (E model)
Label, specification
4-868-440-11 (E model)
4-868-440-31 (UK model)
Side Plate, cabinet
X-4868-402-0
Cabinet Ass'y
BVTP
4 x 20
♦ 4-868-444-00
Plate, bottom
UK model
BVTP
3 x 8
1-401-899-00
Antenna, ferrite-rod, LW/MW (L4)
♦ 1-604-106-00
Printed Circuit Board, antenna
BVTP
3 x 10
1-553-372-00
Switch, SPEAKERS (S751)
4-868-486-00
Holder, antenna
X-4809-908-X
Foot Ass'y
BVTP
3 x 12

5-2.

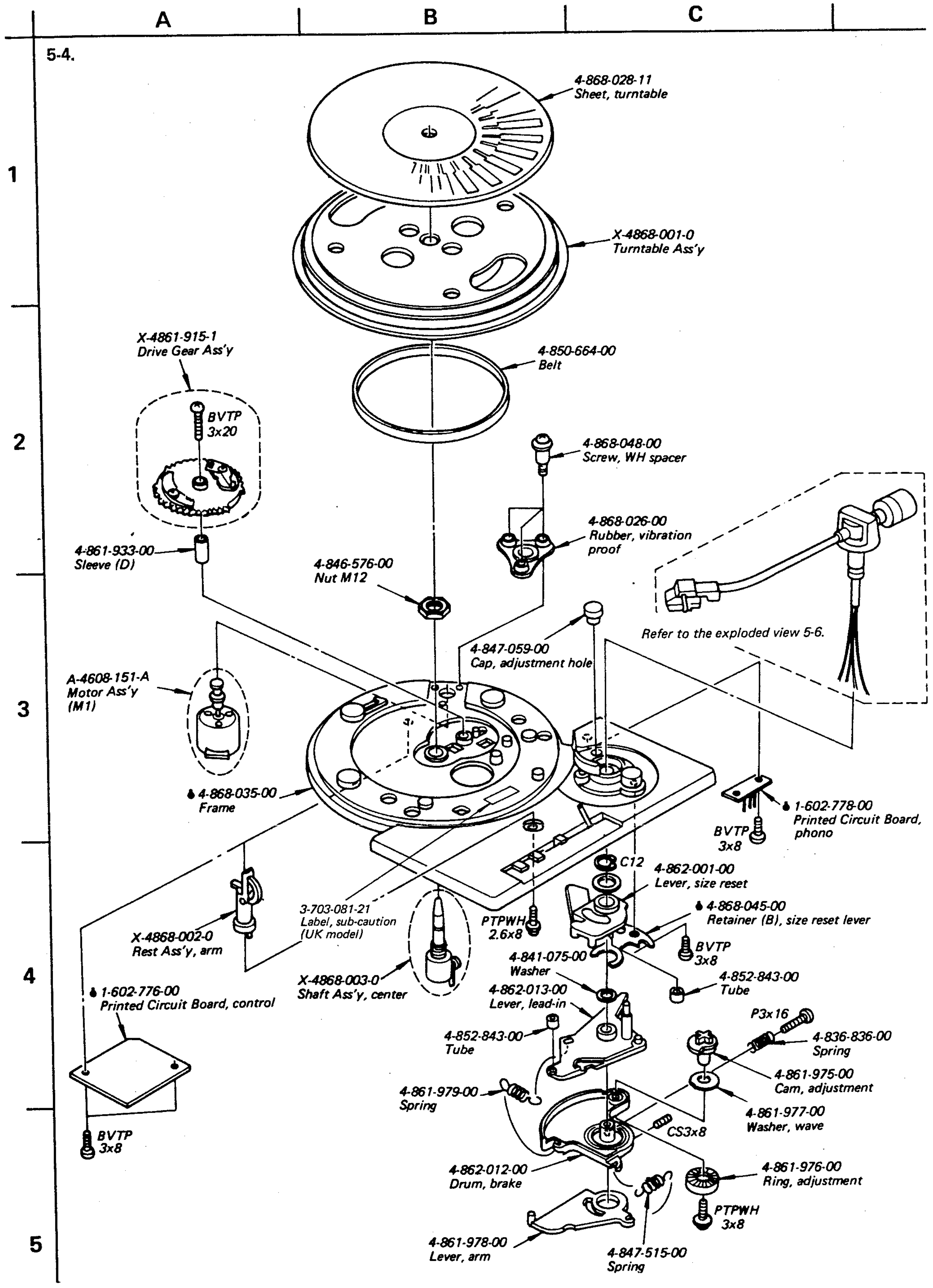

A
B
C
1
2
3
4
5
⚠
1-446-897-00 (UK model)
1-446-898-00 (E model)
Transformer, power (T101)
⚠
1-552-535-00 (E model)
Voltage Selector (VS1)
BVTP
4 x 8
1-507-686-00
Jack, phono; 4p AUX/REC OUT (J301, 401 J302, 402)
⚠
1-551-628-00 (E model)
1-551-884-00 (UK model)
Cord, power
1-536-544-00
Terminal, antenna; 3p (CNJ01)
♦ A-4394-229-A
Complete Circuit Board, power supply
E model
4-872-077-00
Cover, voltage selector
4-872-073-00
Label, voltage selector
⚠
3-703-244-00
Bushing, cord
♦ 4-854-790-00
Heat Sink
P3 x 5
PTPWH
3 x 8
4-812-134-11
Rivet, nylon
⚠
1-532-285-00 (E model)
Fuse, 1.25 AT
1-532-500-00 (UK model)
Fuse, 0.63 AT
(F901)
♦ 3-703-141-00
Holder, printed circuit board
BVTP
3 x 8
♦ 3-701-948-15 (E model)
Label, fuse; 1.25 A
♦ 3-701-948-12 (UK model)
Label, fuse; 630 mA
♦ 1-604-075-00
Printed Circuit Board, fuse
♦ 4-868-456-11 (E model)
♦ 4-868-456-21 (UK model)
Chassis
4-868-401-00
Label, jack plate
BVTT4 x 8
BVTP
4 x 8
1-536-566-00
Terminal, speaker
BVTP
4 x 8
♦ 1-602-853-00
Printed Circuit Board, LED (A)
BVTP
3 x 8
4-868-435-01
Button, cassette
⚠
1-446-896-00 (E model)
1-446-895-00 (UK model)
Transformer, timer (T102)
4-868-426-00
Button, eject
4-868-435-11
Button, cassette
●A
4-868-407-00
Boss, cabinet
4-868-436-00
Button, REC MUTE
4-868-422-00
Knob, ISS
9-911-837-XX
Cushion
BVTP
3 x 10
●B
♦ 4-868-411-00
Bracket
X-4868-401-0
Lid Ass'y, cassette
BVTP
3 x 8
3-701-690-00 (UK model)
Label, Made in Japan
4-868-467-00
Washer, felt
●C
♦ 4-868-407-00
Boss, cabinet
X-4868-503-0
Lid Ass'y
UK model
3-703-081-21
Label, sub-caution
♦ 4-868-567-00
Cover, heat sink
BTP4 x 8

Parts marked ● A–C are included in Sub-panel Ass'y on the exploded view 5-3.

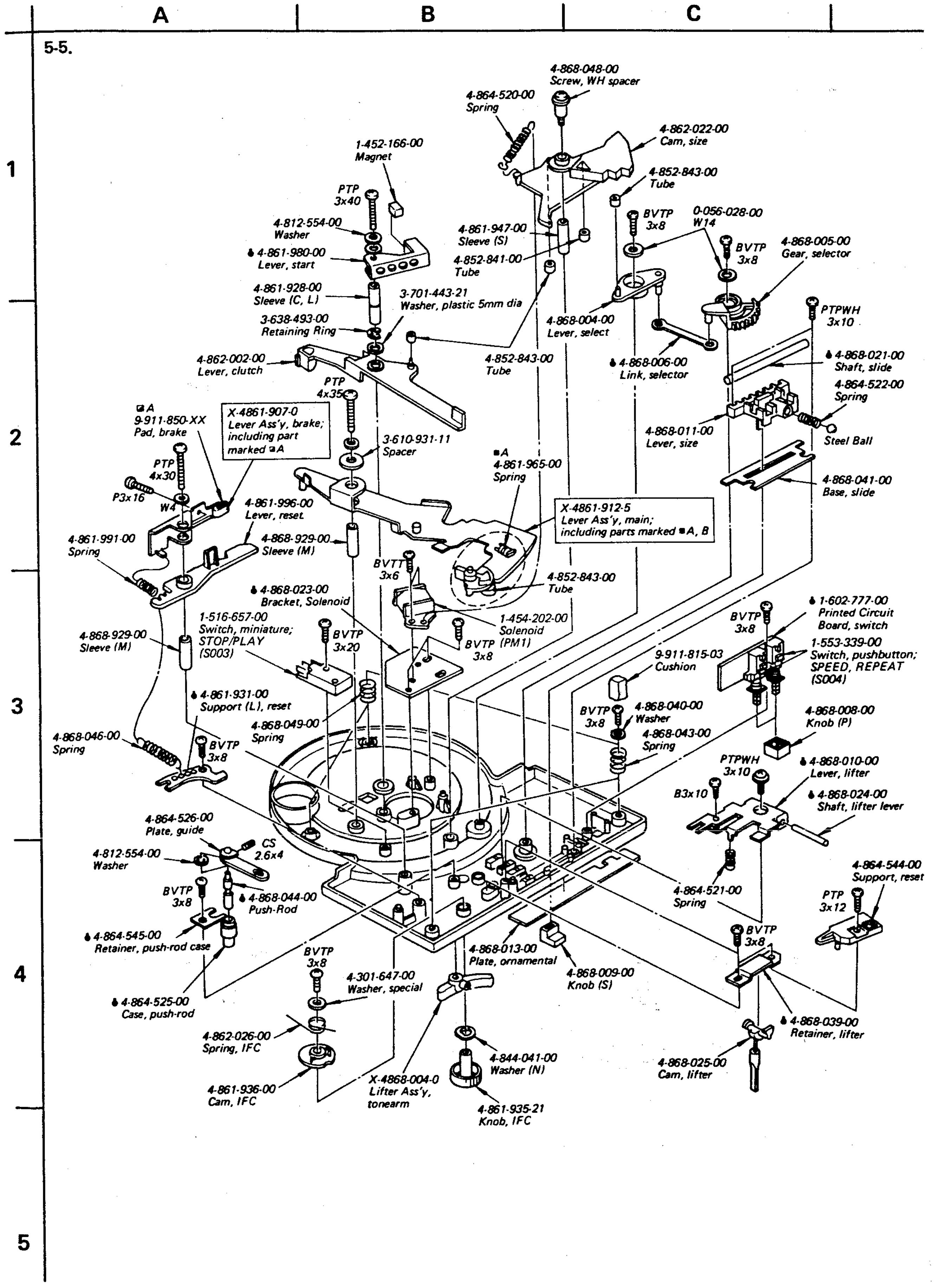
5-3.


A
B
C
1
2
3
4
5
1-226-717-00 Resistor, variable; TREBLE, BASS, BALANCE (RV701–703) (RV801, 802)
1-553-372-00 (E model) Switch, pushbutton; 9 kHz/10 kHz (S14)
♠ A-4409-407-A (UK model) ♠ A-4409-408-A (E model) Complete Circuit Board, audio
1-228-111-00 Resistor, variable; VOLUME (RV751, 851)
♠ 4-868-505-00 Retainer, IC
BVTP 3 x 8
1-507-694-00 Jack, HEADPHONES (J751)
1-553-372-00 Switch, pushbutton; SPEAKERS (S751)
9-911-863-XX Shield Plate
BVTP3 x 8
♠ 4-868-450-00 Shield Plate (C)
9-911-815-03 Cushion (B), knob
1-553-296-00 Switch, pushbutton; AUTO TUNING, PRESET 1 – 5 (S19–25)
4-868-434-00 Knob, selector
1-553-299-00 Switch, slide; TAPE SELECT (S551)
1-226-893-00 Resistor, variable; MIC MIXING 20 k/20 k (RV351, 451)
1-226-883-00 Resistor, variable; REC LEVEL 20 k/20 k (RV551, 651)
1-553-298-00 Switch, slide; DOLBY NR (S552)
1-553-297-00 Switch, pushbutton SLEEP, TIMER (S1, 2)
♠ 1-602-855-00 Printed Circuit Board, timer switch
♠ 4-868-420-00 (E model) ♠ 4-868-448-00 (UK model) Ground Plate
♠ 4-868-468-00 Flag, LED
9-911-815-01 Cushion (A), knob
1-553-295-00 Switch, pushbutton; FUNCTION (S8–12)
BVTP3 x 8
4-868-433-00 Lever, joint
4-868-437-00 Button, timer
BVTP3 x 8
1-519-191-00 (E model) 1-519-179-00 (UK model) Fluorescent Display Tube
● D ♠ 4-868-413-00 Boss, printed circuit board
♠ 4-868-448-00 Shield Plate (A)
♠ 4-868-449-00 Shield Plate (B)
4-838-117-00 Cover (B), lamp
1-518-423-00 Pilot Lamp, 8 V 50 mV; PHONO START/STOP (PL10)
9-911-815-03 Spacer (E)
1-552-737-00 Switch, pushbutton; MODE, AM SENS (S13)
♠ 4-866-126-00 Flag, timer
♠ A-4472-054-A (UK model) ♠ A-4472-055-A (E model) Complete Circuit Board, timer
1-520-424-00 Meter, fiber
BVTP3 x 8
♠ 1-603-388-00 Printed Circuit Board, meter
1-552-539-00 Switch, keyboard; START/STOP, PHONO, MEMORY IN (S7, 26)
BVTP3 x 8
4-868-464-00 Holder (A), LED
1-401-868-00 Antenna, ferrite-rod; AM (L4)
♠ 1-602-852-00 Printed Circuit Board, MIC JACK
♠ A-4351-226-A (UK model) ♠ A-4351-227-A (E model) Complete Circuit Board, tuner
1-552-370-00 Switch, slide; 50 Hz/60 Hz (S18)
BVTP3 x 8
♠ 4-868-489-00 Heat Sink
♠ 1-602-857-00 Printed Circuit Board, LED (B)
1-518-268-00 Pilot Lamp (PL1, 3–9) (PL12 . . . UK model)
♠ 1-602-859-00 Printed Circuit Board, antenna
♠ 4-868-483-00 Musk
1-552-412-00 Switch, keyboard; TIME ADJUST, TIMER/SLEEP SET, FAST, SLOW (S3–6)
● G ♠ 4-868-451-00 Bracket, antenna
E model
1-507-685-00 Jack, MIC (J351, 451)
4-868-438-00 Button, tuning
● F 4-868-431-00 Side Plate (L), panel
4-868-478-00 Ground Plate, panel
4-868-417-00 Button, memory
4-868-484-00 Timer Filter
4-868-415-00 Button, push
4-868-416-11 (UK model) 4-868-416-21 (E model) Sheet, indication
BV3 x 10 (TA)
4-868-421-11 Button, speaker
4-868-408-00 Button, PS
4-868-428-00 Button, function
BV3 x 10 (TA)
BV3 x 10 (TA)
● C ♠ 4-868-411-00 Bracket
4-868-432-00 Smoke Plate
4-864-613-23 Knob, TONE (TONE, BALANCE, REC LEVEL, MIC MIXING)
9-911-835-XX Cushion
● A ♠ 4-821-121-00 Terminal
● E 4-868-430-00 Side Plate (R), panel
BV3 x 10 (E model) (TA)
4-868-515-00 Knob, VOLUME
Supplied with the VOLUME knob
● B ♠ 4-868-407-00 Boss, cabinet
X-4868-406-0 (UK model) X-4868-407-0 (E model) Sub-panel Ass'y, including parts marked ● A–G

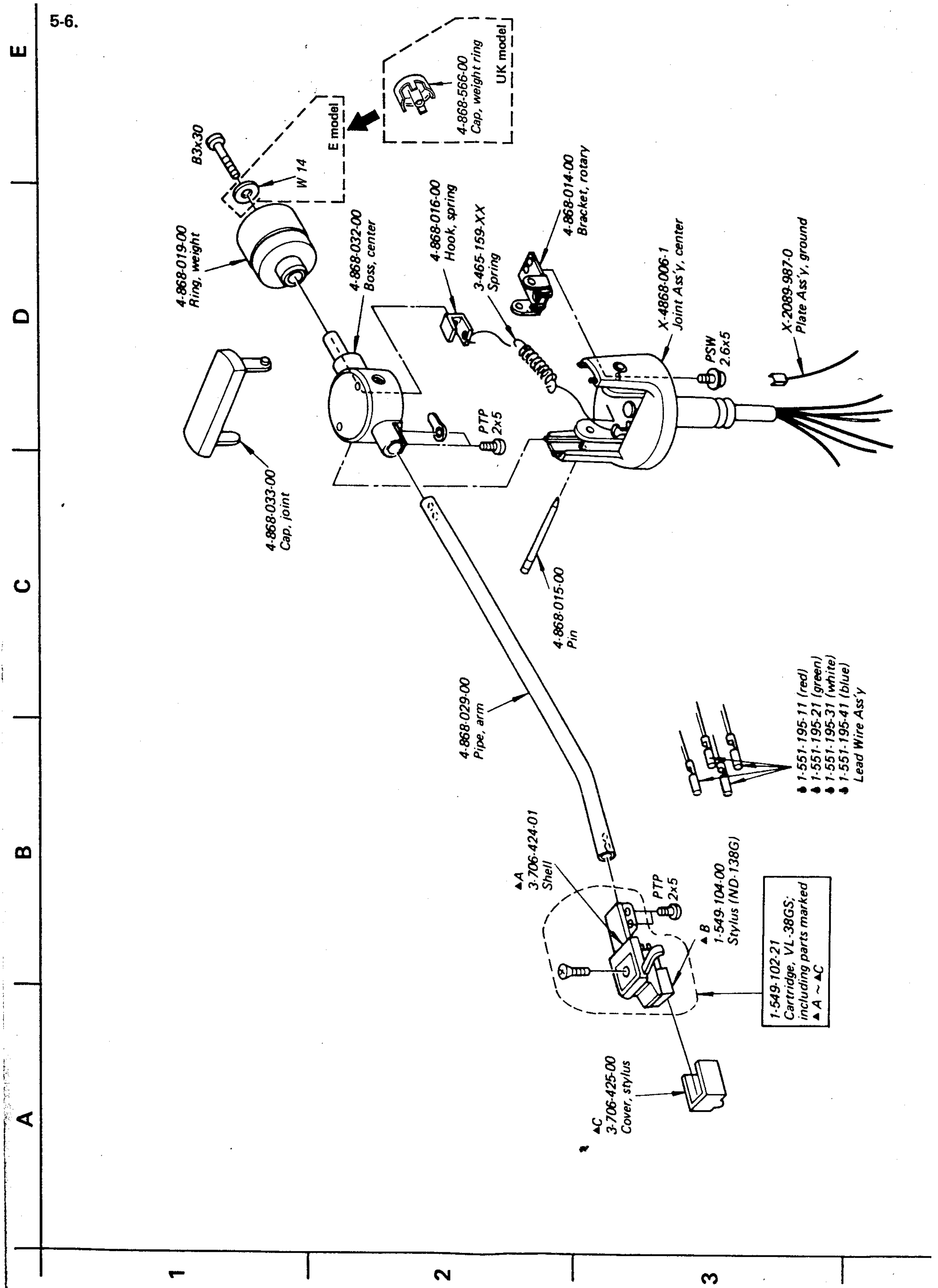
5-4.


A
B
C
1
2
3
4
5
4-868-028-11 Sheet, turntable
X-4868-001-0 Turntable Ass'y
X-4861-915-1 Drive Gear Ass'y
BVTP 3x20
4-850-664-00 Belt
4-868-048-00 Screw, WH spacer
4-868-026-00 Rubber, vibration proof
4-861-933-00 Sleeve (D)
4-846-576-00 Nut M12
4-847-059-00 Cap, adjustment hole
Refer to the exploded view 5-6.
A-4608-151-A Motor Ass'y (M1)
♠ 4-868-035-00 Frame
♠ 1-602-778-00 Printed Circuit Board, phono
BVTP 3x8
C12
4-862-001-00 Lever, size reset
♠ 4-868-045-00 Retainer (B), size reset lever
3-703-081-21 Label, sub-caution (UK model)
PTPWH 2.6x8
BVTP 3x8
X-4868-002-0 Rest Ass'y, arm
X-4868-003-0 Shaft Ass'y, center
4-841-075-00 Washer
4-852-843-00 Tube
4-862-013-00 Lever, lead-in
♠ 1-602-776-00 Printed Circuit Board, control
P3x16
4-852-843-00 Tube
4-836-836-00 Spring
4-861-975-00 Cam, adjustment
4-861-979-00 Spring
4-861-977-00 Washer, wave
CS3x8
BVTP 3x8
4-862-012-00 Drum, brake
4-861-976-00 Ring, adjustment
PTPWH 3x8
4-861-978-00 Lever, arm
4-847-515-00 Spring

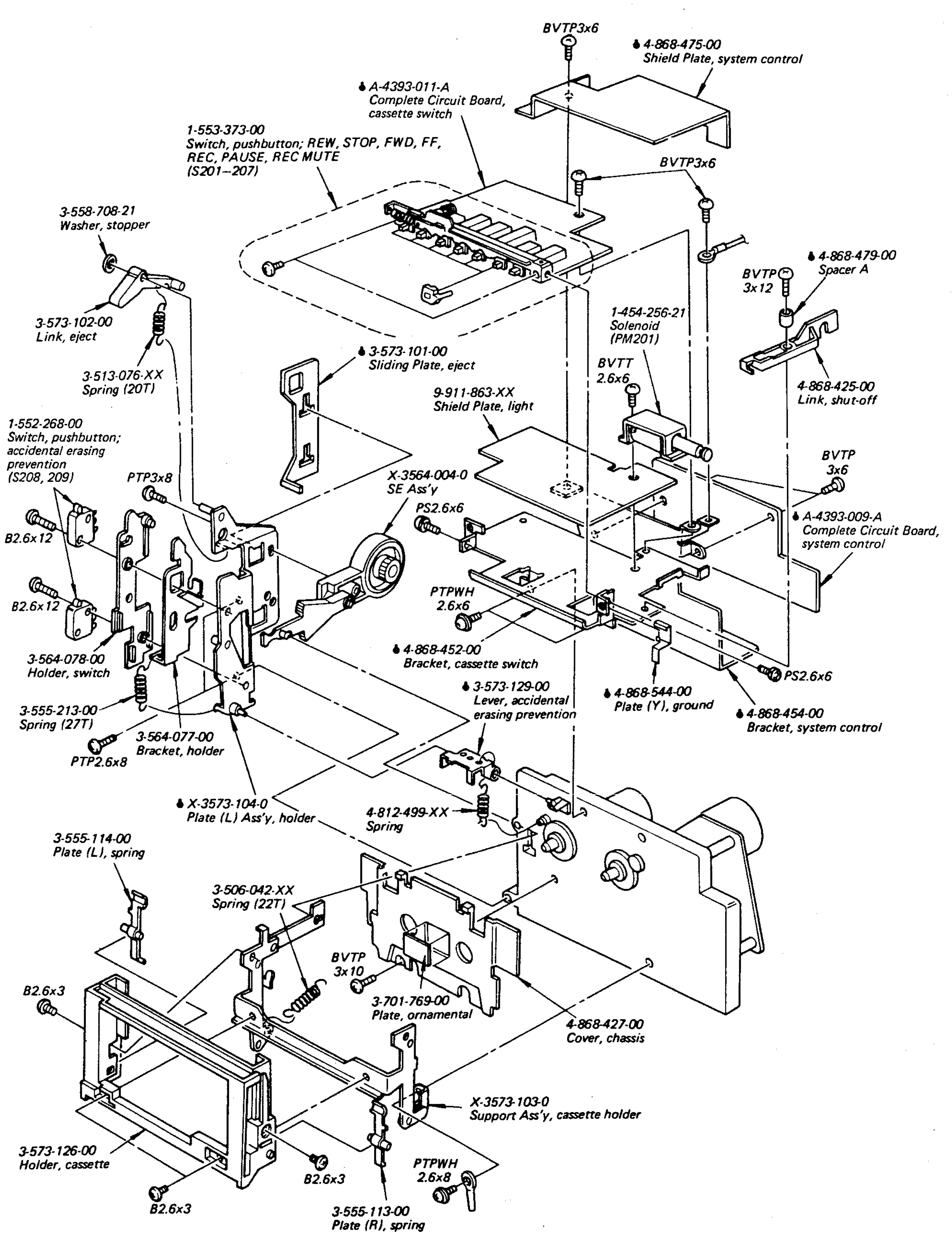
5-5.


A
B
C
1
2
3
4
5
4-868-048-00 Screw, WH spacer
4-864-520-00 Spring
4-862-022-00 Cam, size
1-452-166-00 Magnet
4-852-843-00 Tube
PTP 3x40
BVTP 3x8
0-056-028-00 W14
4-812-554-00 Washer
4-861-947-00 Sleeve (S)
BVTP 3x8
4-868-005-00 Gear, selector
♦ 4-861-980-00 Lever, start
4-852-841-00 Tube
4-861-928-00 Sleeve (C, L)
3-701-443-21 Washer, plastic 5mm dia
4-868-004-00 Lever, select
PTPWH 3x10
3-638-493-00 Retaining Ring
4-852-843-00 Tube
♦ 4-868-006-00 Link, selector
♦ 4-868-021-00 Shaft, slide
4-862-002-00 Lever, clutch
PTP 4x35
4-864-522-00 Spring
▣A 9-911-850-XX Pad, brake
X-4861-907-0 Lever Ass'y, brake; including part marked ▣A
3-610-931-11 Spacer
4-868-011-00 Lever, size
Steel Ball
PTP 4x30
P3x16
W4
■A 4-861-965-00 Spring
4-868-041-00 Base, slide
4-861-996-00 Lever, reset
X-4861-912-5 Lever Ass'y, main; including parts marked ■A, B
4-861-991-00 Spring
4-868-929-00 Sleeve (M)
BVTT 3x6
4-852-843-00 Tube
♦ 4-868-023-00 Bracket, Solenoid
1-454-202-00 Solenoid (PM1)
♦ 1-602-777-00 Printed Circuit Board, switch
1-516-657-00 Switch, miniature; STOP/PLAY (S003)
BVTP 3x20
BVTP 3x8
BVTP 3x8
4-868-929-00 Sleeve (M)
1-553-339-00 Switch, pushbutton; SPEED, REPEAT (S004)
9-911-815-03 Cushion
♦ 4-861-931-00 Support (L), reset
BVTP 3x8
4-868-040-00 Washer
4-868-049-00 Spring
4-868-043-00 Spring
4-868-008-00 Knob (P)
4-868-046-00 Spring
BVTP 3x8
PTPWH 3x10
♦ 4-868-010-00 Lever, lifter
B3x10
♦ 4-868-024-00 Shaft, lifter lever
4-864-526-00 Plate, guide
CS 2.6x4
4-812-554-00 Washer
4-864-544-00 Support, reset
BVTP 3x8
♦ 4-868-044-00 Push-Rod
4-864-521-00 Spring
PTP 3x12
♦ 4-864-545-00 Retainer, push-rod case
BVTP 3x8
4-868-013-00 Plate, ornamental
4-868-009-00 Knob (S)
BVTP 3x8
4-301-647-00 Washer, special
♦ 4-864-525-00 Case, push-rod
♦ 4-868-039-00 Retainer, lifter
4-862-026-00 Spring, IFC
4-844-041-00 Washer (N)
4-868-025-00 Cam, lifter
4-861-936-00 Cam, IFC
X-4868-004-0 Lifter Ass'y, tonearm
4-861-935-21 Knob, IFC

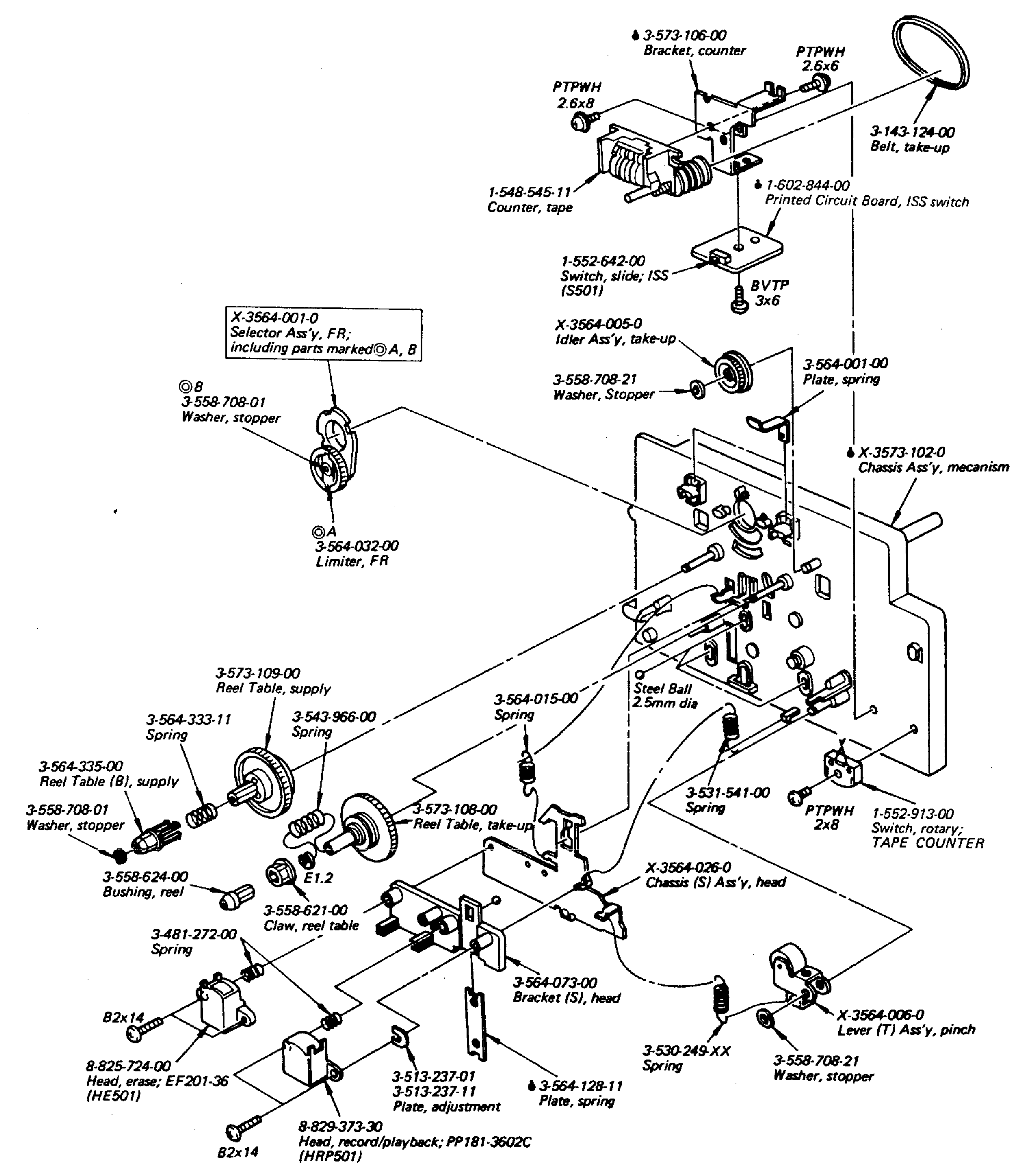
5-6.


E
D
C
B
A
1
2
3
B3x30
W 14
E model
4-868-566-00 Cap, weight ring
UK model
4-868-019-00 Ring, weight
4-868-032-00 Boss, center
4-868-016-00 Hook, spring
3-465-159-XX Spring
4-868-014-00 Bracket, rotary
X-4868-006-1 Joint Ass'y, center
X-2089-987-0 Plate Ass'y, ground
PSW 2.6x5
PTP 2x5
4-868-033-00 Cap, joint
4-868-015-00 Pin
4-868-029-00 Pipe, arm
♦ 1-551-195-11 (red)
♦ 1-551-195-21 (green)
♦ 1-551-195-31 (white)
♦ 1-551-195-41 (blue)
Lead Wire Ass'y
▲A 3-706-424-01 Shell
PTP 2x5
▲B 1-549-104-00 Stylus (ND-138G)
1-549-102-21 Cartridge, VL-38GS; including parts marked ▲A ~ ▲C
▲C 3-706-425-00 Cover, stylus

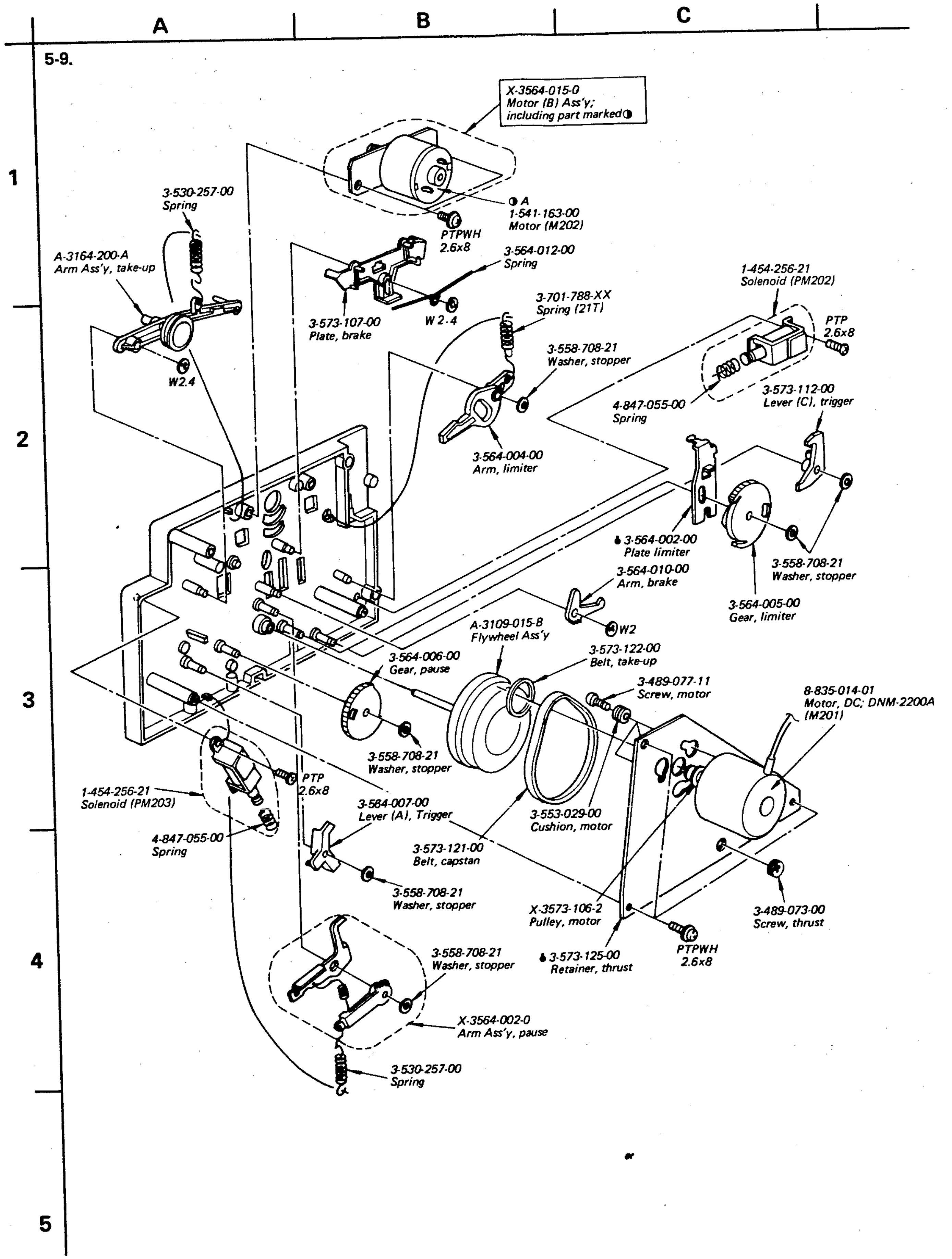
5-7.


A
B
C
1
2
3
4
5
BVTP3x6
♠ 4-868-475-00
Shield Plate, system control
♠ A-4393-011-A
Complete Circuit Board,
cassette switch
1-553-373-00
Switch, pushbutton; REW, STOP, FWD, FF,
REC, PAUSE, REC MUTE
(S201–207)
BVTP3x6
3-558-708-21
Washer, stopper
♠ 4-868-479-00
Spacer A
BVTP
3x12
1-454-256-21
Solenoid
(PM201)
3-573-102-00
Link, eject
♠ 3-573-101-00
Sliding Plate, eject
BVTT
2.6x6
3-513-076-XX
Spring (20T)
9-911-863-XX
Shield Plate, light
4-868-425-00
Link, shut-off
1-552-268-00
Switch, pushbutton;
accidental erasing
prevention
(S208, 209)
PTP3x8
BVTP
3x6
X-3564-004-0
SE Ass'y
PS2.6x6
♠ A-4393-009-A
Complete Circuit Board,
system control
B2.6x12
B2.6x12
PTPWH
2.6x6
♠ 4-868-452-00
Bracket, cassette switch
3-564-078-00
Holder, switch
PS2.6x6
♠ 3-573-129-00
Lever, accidental
erasing prevention
♠ 4-868-544-00
Plate (Y), ground
♠ 4-868-454-00
Bracket, system control
3-555-213-00
Spring (27T)
3-564-077-00
Bracket, holder
PTP2.6x8
♠ X-3573-104-0
Plate (L) Ass'y, holder
4-812-499-XX
Spring
3-555-114-00
Plate (L), spring
3-506-042-XX
Spring (22T)
BVTP
3x10
3-701-769-00
Plate, ornamental
B2.6x3
4-868-427-00
Cover, chassis
X-3573-103-0
Support Ass'y, cassette holder
3-573-126-00
Holder, cassette
B2.6x3
PTPWH
2.6x8
B2.6x3
3-555-113-00
Plate (R), spring

5-8.


A
B
C
1
2
3
4
5
♠ 3-573-106-00
Bracket, counter
PTPWH
2.6x6
PTPWH
2.6x8
3-143-124-00
Belt, take-up
1-548-545-11
Counter, tape
♠ 1-602-844-00
Printed Circuit Board, ISS switch
1-552-642-00
Switch, slide; ISS
(S501)
BVTP
3x6
X-3564-001-0
Selector Ass'y, FR;
including parts marked◎A, B
X-3564-005-0
Idler Ass'y, take-up
3-558-708-21
Washer, Stopper
3-564-001-00
Plate, spring
◎B
3-558-708-01
Washer, stopper
♠ X-3573-102-0
Chassis Ass'y, mecanism
◎A
3-564-032-00
Limiter, FR
3-573-109-00
Reel Table, supply
3-564-015-00
Spring
Steel Ball
2.5mm dia
3-564-333-11
Spring
3-543-966-00
Spring
3-564-335-00
Reel Table (B), supply
3-573-108-00
Reel Table, take-up
3-531-541-00
Spring
PTPWH
2x8
1-552-913-00
Switch, rotary;
TAPE COUNTER
3-558-708-01
Washer, stopper
3-558-624-00
Bushing, reel
E1.2
3-558-621-00
Claw, reel table
X-3564-026-0
Chassis (S) Ass'y, head
3-481-272-00
Spring
3-564-073-00
Bracket (S), head
B2x14
X-3564-006-0
Lever (T) Ass'y, pinch
3-530-249-XX
Spring
3-558-708-21
Washer, stopper
8-825-724-00
Head, erase; EF201-36
(HE501)
3-513-237-01
3-513-237-11
Plate, adjustment
♠ 3-564-128-11
Plate, spring
8-829-373-30
Head, record/playback; PP181-3602C
(HRP501)
B2x14

5-9.


A
B
C
1
2
3
4
5
X-3564-015-0
Motor (B) Ass'y;
including part marked◑
◑ A
1-541-163-00
Motor (M202)
PTPWH
2.6x8
3-530-257-00
Spring
A-3164-200-A
Arm Ass'y, take-up
W2.4
3-564-012-00
Spring
3-573-107-00
Plate, brake
W 2.4
3-701-788-XX
Spring (21T)
3-558-708-21
Washer, stopper
3-564-004-00
Arm, limiter
1-454-256-21
Solenoid (PM202)
PTP
2.6x8
4-847-055-00
Spring
3-573-112-00
Lever (C), trigger
♠ 3-564-002-00
Plate limiter
3-564-010-00
Arm, brake
W2
3-558-708-21
Washer, stopper
3-564-005-00
Gear, limiter
A-3109-015-B
Flywheel Ass'y
3-573-122-00
Belt, take-up
3-564-006-00
Gear, pause
3-489-077-11
Screw, motor
8-835-014-01
Motor, DC; DNM-2200A
(M201)
3-558-708-21
Washer, stopper
1-454-256-21
Solenoid (PM203)
PTP
2.6x8
3-564-007-00
Lever (A), Trigger
3-553-029-00
Cushion, motor
4-847-055-00
Spring
3-573-121-00
Belt, capstan
3-558-708-21
Washer, stopper
X-3573-106-2
Pulley, motor
3-489-073-00
Screw, thrust
♠ 3-573-125-00
Retainer, thrust
PTPWH
2.6x8
3-558-708-21
Washer, stopper
X-3564-002-0
Arm Ass'y, pause
3-530-257-00
Spring

Part No.	*Description*
♠A-4393-009-A	System Control
♠A-4393-011-A	Cassette Switch
♠A-4394-229-A	Power Supply
♠A-4409-407-A	Audio (UK model)
♠A-4409-408-A	Audio (E model)
♠A-4472-054-A	Timer (UK model)
♠A-4472-055-A	Timer (E model)

PRINTED CIRCUIT BOARDS

♠1-602-776-00	Control
♠1-602-777-00	Switch
♠1-602-778-00	Phono
♠1-602-844-00	ISS Switch
♠1-602-849-00	Power Supply
♠1-602-852-00	MIC Jack
♠1-602-853-00	LED (A)
♠1-602-855-00	TIMER Switch
♠1-602-857-00	LED (B)
♠1-602-859-00	Antenna (E model)
♠1-603-388-00	Meter
♠1-604-075-00	Fuse
♠1-604-106-00	Antenna (UK model)

ACCESSORIES & PACKING MATERIALS

Part No.	*Description*
X-3701-105-0	Head Cleaning Tip Ass'y
X-4868-001-0	Turntable Ass'y
1-501-161-00	Antenna, feeder
⚠1-526-565-00	Adaptor, AC plug (E model)
1-534-492-00	Cord, antenna
2-264-179-00	Sheet, protection
3-701-632-00	Bag, plastic (for turntable sheet)
3-701-690-00	Label, Made in Japan (UK model)
3-701-806-00	Adaptor; 45 rpm (E model)
3-703-081-21	Label, sub-caution (UK model)
3-703-396-00	Label, caution (UK model)
3-783-427-41	Manual, instruction (UK model)
3-783-427-51	Manual, instruction (E model)
4-859-921-00	Label, DOLBY
4-860-113-00	Spacer (for turntable)
4-860-377-00	Sheet, protection
4-862-043-00	Cushion, arm
4-868-028-00	Sheet, turntable
4-868-401-00	Label, jack plate
4-868-423-00	Collar, lock (for turntable)
4-868-458-00	Retainer, frame
4-868-459-00	Spacer, cassette lid
4-868-469-00	Label, specification (UK model)
4-868-471-00	Label, specification (E model)
4-868-482-00	Carton
4-868-552-00	Cushion, upper (right)
4-868-553-00	Cushion, upper (left)
4-868-554-00	Cushion, lower (right)
4-868-555-00	Cushion, lower (left)

ELECTROLYTIC CAPACITORS

RATING →: Use the high voltage rated one.

CAP. (μF)	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	–	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	–
3300	1-121-661-00	1-123-075-00	1-123-071-00	–	–	–

CAP. (μF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	–	1-123-028-00
3.3	1-121-995-00	–	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	–	–
47	1-123-251-00	1-121-919-00	–	–
100	1-123-084-00	–	–	–

CERAMIC CAPACITORS

RATING

CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (μF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001μF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS

RATING →: Use the high voltage rated one.

CAP. (μF)	25 VOLT.	50 VOLT.	CAP. (μF)	25 VOLT.	50 VOLT.
	PART No.	PART No.		PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

RESISTORS

All resistors are in ohms. Common 1/16, 1/8 W carbon resistors are omitted. Refer to the list on page 72 for their part numbers.

Ref. No.	*Part No.*	*Description*
R70	⚠1-206-640-00	100 2 W metal-oxide
R201	⚠1-213-127-00	47 1 W metal-oxide
R506	1-244-853-00	150 ½ W carbon
R582	⚠1-213-101-00	510 1 W fuse (nonflammable)
R756, 856	⚠1-212-958-00	10 ½ W fuse
R757, 857	⚠1-244-861-00	330 ½ W composition
R906	⚠1-247-180-00	1 ½ W nonflammable
R907	1-202-541-00	47 ½ W composition
R909	⚠1-213-100-00	470 1 W fuse
R910	⚠1-213-064-00	15 1 W fuse
R951, 952	⚠1-213-137-00	330 1 W metal-oxide
R981, 982	1-244-863-00	390 ½ W composition
RV101	1-226-235-00	5 k-B, adjustable; 19 kHz
RV102	1-224-650-XX	470 k-B, adjustable; SCAN speed (E model)
	1-226-686-00	470 k-B, adjustable; SCAN speed (UK model)
RV103, 104	1-226-235-00	5 k-B, adjustable; fiber meter
RV351, 451	1-226-893-00	20 k/20 k-B, variable; MIC MIXING
RV501, 601	1-226-239-00	100 k-B, adjustable; rec bias
RV551, 651	1-226-883-00	20 k/20 k-B, variable; REC LEVEL
RV552, 652 RV711	1-226-236-00	10 k-B, adjustable; playback level, AMS
RV553, 653	1-226-238-00	50 k-B, adjustable; rec level
RV701–703 RV801, 802	1-226-717-00	100 k/100 k/180 k, variable; TREBLE BASS, BALANCE
RV751, 851	1-228-111-00	250 k/250 k-B, variable; VOLUME

CAPACITORS

All capacitors are in μF. Common capacitors are omitted. Refer to the list on pages 70 and 71 for their part numbers.
p: μμF, elect: electrolytic

Ref. No.	*Part No.*	*Description*
C901, 902	⚠1-123-509-00	2200 35 V elect
C903, 904	⚠1-123-517-00	1000 50 V elect
C906	⚠1-123-498-00	1000 25 V elect
C911–913	⚠1-102-394-00	0.01 250 V ceramic
C914, 976	⚠1-108-242-00	0.022 50 V mylar
C971	⚠1-123-498-00	1000 25 V elect
C981	⚠1-161-492-00	0.0047 400 V ceramic (UK model)
C982	⚠1-161-492-00	0.0047 400 V ceramic (E model)
C983	⚠1-161-744-00	0.01 400 V ceramic (E model)
CT1–4	1-141-171-00	TRIMMER (E model)
CT1–6	1-141-171-00	TRIMMER (UK model)

MISCELLANEOUS

Ref. No.	*Part No.*	*Description*
BPF001	1-231-313-00	Filter, bandpass
CF001, 002	1-527-381-00	Filter, ceramic
CF003	1-527-481-00	Filter, ceramic (E model)
	1-527-783-00	Filter, ceramic (UK model)
CNJ01	1-536-544-00	Terminal, antenna; 3-p
●CNJ101	1-508-734-00	Pin, connector; 3-p
●CNJ102	1-508-849-00	Pin, connector; 8-p
F901	⚠1-532-285-00	Fuse, 1.25 A (E model)
	⚠1-532-500-00	Fuse, 0.63 A (UK model)
HE501	8-825-724-00	Head, erase (EF201-36)
HRP501	8-829-373-30	Head, record/playback (PP181-3602C)
IFT001	1-404-232-00	Coil, IF
IFT002	1-404-167-00	Discriminator, FM
J301, 302 J401, 402	1-507-686-00	Jack, phono 4P; AUX/REC OUT
J351, 451	1-507-685-00	Jack, MIC
J751	1-507-694-00	Jack, HEADPHONES
L1	1-459-328-00	Coil, RF
L2	1-405-940-00	Coil, FM OSC
●L3	1-420-873-00	Coil
L4	1-401-868-00	Antenna, AM Ferrite-rod (E model)
	1-401-899-00	Antenna, LW/MW Ferrite-rod (UK model)
L5	1-405-915-00	Coil, MW OSC
L6	1-407-189-XX	Coil with core, 8.2 μH
L7	1-405-939-00	Coil (UK model)
L8	1-407-163-XX	Coil with core, 33 μH (E model)
	1-407-175-XX	Microinductor, 330 μH (UK model)
●L9, 10	1-409-349-00	Trap Coil
L11	1-407-163-XX	Coil with core, 33 μH
L12	1-407-169-XX	Coil with core, 100 μH
L501, 601	1-408-262-00	Microinductor, 27 mH
L502	1-433-227-00	Coil, bias OSC
L901	1-407-177-XX	Microinductor, 470 μH
L902	1-407-169-XX	Microinductor, 100 μH (UK model)
M1	A-4608-151-A	Motor Ass'y
M201	8-835-014-01	Motor, DC (DNM-2200A)
M202	1-541-163-00	Motor
PL1, 3–9	1-518-268-00	Lamp, pilot, 4.5 V DIAL SCALE, CASSETTE, FM, AM, MW, LW, AUX, PHONO, TIMER, SLEEP
PL10	1-518-423-00	Lamp, pilot, 8V; PHONO START/STOP
PL12	1-518-268-00	Lamp, pilot; 4.5V PHONO (UK model)
PM1	1-454-202-00	Solenoid
PM201–203	1-454-256-21	Solenoid
RY101	⚠1-515-345-00	Relay (E model)
	⚠1-515-357-00	Relay (UK model)
S003	1-516-657-00	Switch, miniature; stop/play
S004	1-553-339-00	Switch, pushbutton; REPEAT, SPEED
S1, 2	1-553-297-00	Switch, pushbutton; SLEEP, TIMER
S3–6	1-552-412-00	Switch, keyboard; TIME ADJUST, TIMER/SLEEP SET, SLOW, FAST
S7	1-552-539-00	Switch, keyboard; START/STOP
S8–12	1-553-295-00	Switch, pushbutton; FUNCTION
S13	1-552-737-00	Switch, pushbutton; MODE/AM SENS
S14	1-553-372-00	Switch, pushbutton; 9 kHz/10 kHz (E model)
S18	1-552-370-00	Switch, slide; 50 Hz/60 Hz
S19–25	1-553-296-00	Switch, pushbutton; AUTO TUNING, PRESET $\boxed{1}$ – $\boxed{5}$
S26	1-552-539-00	Switch, keyboard; PHONO, MEMORY IN
S201 S202–207	1-553-373-00	Switch, pushbutton; REW, STOP, PLAY, FF, REC, PAUSE, REC MUTE
S208, 209	1-552-268-00	Switch, pushbutton; accidental erasing prevention, EJECT
S501	1-552-642-00	Switch, slide; ISS
S551	1-553-299-00	Switch, slide; TAPE SELECT
S552	1-553-298-00	Switch, slide; DOLBY NR
S751	1-553-372-00	Switch, pushbutton; SPEAKERS
T101	⚠1-446-897-00	Transformer, power (UK model)
	⚠1-446-898-00	Transformer, power (E model)
T102	⚠1-446-895-00	Transformer, timer (UK model)
	⚠1-446-896-00	Transformer, timer (E model)
VS1	⚠1-552-535-00	Voltage Selector (E model)
X001	1-527-482-00	Oscillator, quartz
	1-452-166-00	Magnet
	●1-508-810-00	Base Terminal
	●1-508-811-00	Base Terminal
	●1-508-812-00	Base Terminal
	1-508-910-00	Connector 12P
	1-519-179-00	Display, fluorescence tube (UK model)
	1-519-191-00	Display, fluorescence tube (E model)
	1-520-424-00	Fiber Meter
	⚠1-533-131-00	Holder, fuse
	●1-535-115-00	Terminal 2P
	●1-535-116-00	Terminal 3P
	●1-535-117-00	Terminal 4P
	●1-535-118-00	Terminal 5P
	●1-535-119-00	Terminal 6P
	●1-535-120-00	Terminal 7P
	●1-535-121-00	Terminal 8P
	1-536-566-00	Terminal, speaker
	1-548-545-11	Counter, tape
	1-549-102-21	Cartridge (VL-38GS)
	1-549-104-00	Stylus (ND-138G)
	1-551-195-11	Lead Wire Ass'y (red)
	1-551-195-21	Lead Wire Ass'y (green)
	1-551-195-31	Lead Wire Ass'y (white)
	1-551-195-41	Lead Wire Ass'y (blue)
	⚠1-551-628-00	Cord, power (E model)
	⚠1-551-884-00	Cord, power (UK model)
	1-552-913-00	Switch, rotary
	●1-561-441-00	Connector 5P

COMPLETE CIRCUIT BOARDS

	●A-4351-226-A	Tuner (UK model)
	●A-4351-227-A	Tuner (E model)

SECTION 6
ELECTRICAL PARTS LIST

; marked "♦" are not stocked since they are seldom red for routine service. Some delay should be anti- ed when ordering these items.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

).	*Part No.*	*Description*
		SEMICONDUCTORS
		Transistors
	8-729-463-73	2SD637
	8-760-413-10	2SC1475
06	8-729-671-14	2SC710-14
	8-729-463-73	2SD637
16 22	8-729-463-73	2SD637 (E model)
11 21	8-729-463-73	2SD637 (UK model)
	8-722-383-40	2SK23A-834
55	8-729-463-73	2SD637 (UK model)
	8-729-663-47	2SC1364
	8-760-413-10	2SC1475
	8-729-663-47	2SC1364
	8-760-413-10	2SC1475
07	8-729-245-83	2SC2458
	8-729-663-47	2SC1364
10	8-760-413-10	2SC1475
	8-729-663-47	2SC1364
	8-760-413-10	2SC1475
	8-729-663-47	2SC1364
01	8-729-245-83	2SC2458
	8-760-413-10	2SC1475
52 52	8-729-663-47	2SC1364
51	8-729-663-47	2SC1364
	8-729-288-02	2SD880
	8-729-663-47	2SC1364
04	8-729-177-43	2SD774
	8-729-663-47	2SC1364
	8-729-463-73	2SD637
		ICs
	8-759-155-21	µPB552C
	8-759-917-76	CX775A (E model)
	8-759-979-04	CX7904 (UK model)
	8-751-680-01	CX168
	8-759-833-61	LA3361
	8-759-705-58	NJM4558D-D

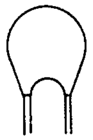
Ref. No.	*Part No.*	*Description*
IC351	8-759-145-58	µPC4558C
IC551, 651	8-759-101-74	CX174
IC710	8-759-611-44	M51144L
IC751, 851	8-759-313-97	HA1397
IC951	8-759-994-32	TMS1943N2L
IC952, 953	8-759-968-80	SN16880N
		Diodes
D001–003	8-719-815-55	1S1555
D101, 102	8-719-912-01	SVC201
D103, 104	8-719-903-21	SVC321C (E model)
D105 D107–109	8-719-815-55	1S1555
D106	8-719-815-55	1S1555 (E model)
D110–114	8-719-901-31	SLP131B
D115	8-719-909-21	GL-9PR21
D116	8-719-909-22	GL-9NG21
D117–123	8-719-815-55	1S1555
D150, 157	8-719-815-55	1S1555 (UK model)
D151–153	8-719-903-21	SVC321C (UK model)
D154–156	8-712-600-00	1T26 (UK model)
D201–218	8-719-200-02	10E2
D219	8-719-931-05	EQB01-05
D221–223	8-719-815-55	1S1555
D231	8-719-909-22	GL-9NG21
D232	8-719-909-21	GL-9PR21
D233	8-719-909-23	GL-9HY21
D310, 410	1-806-037-11	LT3001P
D710	8-719-200-02	10E2
D751	8-719-815-55	1S1555
D901	⚠8-719-500-34	S3VC40
D902	⚠8-719-501-34	S3VC40R
D903–906	⚠8-719-200-02	10E2
D907	8-719-931-14	EQB01-14
D908	8-719-931-24	EQB01-24
D909	8-719-931-15	EQB01-15
D910	8-719-200-02	10E2
D911	⚠8-719-200-02	10E2
D951, 952	8-719-931-10	EQB01-10
D971, 972	8-719-815-55	1S1555

del)
el)

MYLAR CAPACITORS

	RATING										
CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (µF)	50 VOLT.	100 VOLT.	200 VOLT.
	PART No.	PART No.	PART No.		PART No.	PART No.	PART No.		PART No.	PART No.	PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				

TANTALUM CAPACITORS



	RATING			→: Use the high voltage rated one.			
CAP. (µF)	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01					→	→	1-131-396-00
0.015						→	1-131-397-00
0.022						→	1-131-398-00
0.033						→	1-131-399-00
0.047						→	1-131-400-00
0.068					→	→	1-131-401-00
0.1					→	→	1-131-402-00
0.15					→	→	1-131-403-00
0.22					→	→	1-131-404-00
0.33					→	1-131-409-00	1-131-405-00
0.47	–	–	–	–	1-131-412-00	→	1-131-406-00
0.68	–	–	–	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	–	–	1-131-418-00	–	1-131-413-00	→	1-131-408-00
1.5	–	1-131-421-00	–	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	–	1-131-419-00	–	1-131-414-00	1-131-355-00	1-131-349-00
3.3	–	1-131-422-00	–	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	–	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	–	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	–
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	–			
68	1-131-394-00	1-131-388-00	–	–			
100	1-131-395-00	–	–	–			

TANTALUM CAPACITORS

	RATING					
CAP. (µF)	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			–	–	1-131-262-00	1-131-278-00
0.33			–	–	1-131-263-00	1-131-279-00
0.47			1-131-169-00	–	1-131-264-00	1-131-280-00
0.68			–	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	–	1-131-266-00	1-131-282-00
1.5		1-131-250-00	–	–	1-131-267-00	1-131-283-00
2.2		–	–	1-131-259-00	1-131-268-00	1-131-284-00
3.3		–	1-131-255-00	–	1-131-269-00	–
4.7		1-131-251-00	1-131-171-00	–	1-131-270-00	–
6.8		–	–	1-131-260-00	1-131-271-00	–
10	–	–	1-131-256-00	–	1-131-272-00	–
15	–	1-131-252-00	–	1-131-261-00		
22	–	–	1-131-257-00	–		
33	1-131-176-00	1-131-253-00	1-131-173-00	–		
47	1-131-288-00	1-131-174-00	–	–		
100	1-131-177-00					

1/16 WATT CARBON RESISTOR

Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*
2.0	—	13	—	91	1-210-354-00	620	1-210-367-00	4.3k	1-209-772-00	30k	1-210-380-00	200k	1-210-839-00
2.2	—	15	—	100	1-210-355-00	680	1-210-106-00	4.7k	1-209-773-00	33k	1-210-381-00	220k	1-210-840-00
2.4	—	16	—	110	1-210-356-00	750	1-210-107-00	5.1k	1-209-774-00	36k	1-210-394-00	240k	—
2.7	—	18	1-211-688-00	120	1-210-357-00	820	1-210-108-00	5.6k	1-209-775-00	39k	1-210-382-00	270k	1-210-841-00
3.0	—	20	—	130	1-210-358-00	910	1-210-368-00	6.2k	1-209-776-00	43k	1-210-383-00	300k	—
3.3	—	22	—	150	1-210-102-00	1.0k	1-204-122-00	6.8k	1-209-777-00	47k	1-210-384-00	330k	1-210-842-00
3.6	—	24	—	160	1-210-359-00	1.1k	1-210-369-00	7.5k	1-209-778-00	51k	1-210-385-00	360k	—
3.9	—	27	—	180	1-210-360-00	1.2k	1-209-765-00	8.2k	1-209-779-00	56k	1-210-386-00	390k	1-210-843-00
4.3	—	30	1-210-845-00	200	1-210-361-00	1.3k	1-210-370-00	9.1k	1-209-780-00	62k	1-210-387-00	430k	—
4.7	—	33	1-210-846-00	220	1-210-362-00	1.5k	1-209-766-00	10k	1-209-781-00	68k	1-210-388-00	470k	1-210-844-00
5.1	—	36	1-210-847-00	240	1-209-762-00	1.6k	1-210-371-00	11k	1-210-374-00	75k	1-210-389-00	510k	—
5.6	—	39	1-210-848-00	270	1-210-363-00	1.8k	1-209-878-00	12k	1-210-111-00	82k	1-210-390-00	560k	1-211-695-00
6.2	—	43	1-210-849-00	300	1-210-364-00	2.0k	1-209-767-00	13k	1-210-375-00	91k	1-210-391-00	620k	—
6.8	—	47	1-210-395-00	330	1-209-763-00	2.2k	1-209-768-00	15k	1-210-112-00	100k	1-210-115-00	680k	1-211-696-00
7.5	—	51	1-210-101-00	360	1-210-103-00	2.4k	1-209-769-00	16k	1-210-376-00	110k	—	750k	—
8.2	—	56	1-210-351-00	390	1-210-365-00	2.7k	1-209-770-00	18k	1-210-113-00	120k	1-210-836-00	820k	1-211-698-00
9.1	—	62	1-210-352-00	430	1-210-366-00	3.0k	1-210-372-00	20k	1-210-377-00	130k	—	910k	—
10	—	68	1-210-353-00	470	1-209-764-00	3.3k	1-204-123-00	22k	1-210-114-00	150k	1-210-837-00	1 M	—
11	—	75	1-210-392-00	510	1-210-104-00	3.6k	1-210-373-00	24k	1-210-378-00	160k	—		
12	—	82	1-210-393-00	560	1-210-105-00	3.9k	1-209-771-00	27k	1-210-379-00	180k	1-210-838-00		

1/8 WATT CARBON RESISTOR

Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*
2.0	—	13	1-246-821-00	91	1-246-831-00	620	1-246-841-00	4.3k	1-246-851-00	30k	1-246-861-00	200k	1-246-871-00
2.2	1-246-751-00	15	1-246-761-00	100	1-246-771-00	680	1-246-781-00	4.7k	1-246-791-00	33k	1-246-801-00	220k	1-246-811-00
2.4	—	16	1-246-822-00	110	1-246-832-00	750	1-246-842-00	5.1k	1-246-852-00	36k	1-246-862-00	240k	1-247-054-00
2.7	1-246-752-00	18	1-246-762-00	120	1-246-772-00	820	1-246-782-00	5.6k	1-246-792-00	39k	1-246-802-00	270k	1-247-046-00
3.0	—	20	1-246-823-00	130	1-246-833-33	910	1-246-843-00	6.2k	1-246-853-00	43k	1-246-863-00	300k	1-247-055-00
3.3	1-246-753-00	22	1-246-763-00	150	1-246-773-00	1.0k	1-246-783-00	6.8k	1-246-793-00	47k	1-246-803-00	330k	1-247-047-00
3.6	—	24	1-246-824-00	160	1-246-834-00	1.1k	1-246-844-00	7.5k	1-246-854-00	51k	1-246-864-00	360k	1-247-056-00
3.9	1-246-754-00	27	1-246-764-00	180	1-246-774-00	1.2k	1-246-784-00	8.2k	1-246-794-00	56k	1-246-804-00	390k	1-247-048-00
4.3	—	30	1-246-825-00	200	1-246-835-00	1.3k	1-246-845-00	9.1k	1-246-855-00	62k	1-246-865-00	430k	1-247-057-00
4.7	1-246-755-00	33	1-246-765-00	220	1-246-775-00	1.5k	1-246-785-00	10k	1-246-795-00	68k	1-246-805-00	470k	1-247-049-00
5.1	—	36	1-246-826-00	240	1-246-836-00	1.6k	1-246-846-00	11k	1-246-856-00	75k	1-246-866-00	510k	1-247-058-00
5.6	1-246-756-00	39	1-246-766-00	270	1-246-776-00	1.8k	1-246-786-00	12k	1-246-796-00	82k	1-246-806-00	560k	1-247-050-00
6.2	—	43	1-246-827-00	300	1-246-837-00	2.0k	1-246-847-00	13k	1-246-857-00	91k	1-246-867-00	620k	1-247-059-00
6.8	1-246-757-00	47	1-246-767-00	330	1-246-777-00	2.2k	1-246-787-00	15k	1-246-797-00	100k	1-246-807-00	680k	1-247-051-00
7.5	1-246-818-00	51	1-246-828-00	360	1-246-838-00	2.4k	1-246-848-00	16k	1-246-858-00	110k	1-246-868-00	750k	1-247-060-00
8.2	1-246-758-00	56	1-246-768-00	390	1-246-778-00	2.7k	1-246-788-00	18k	1-246-798-00	120k	1-246-808-00	820k	1-247-052-00
9.1	1-246-819-00	62	1-246-829-00	430	1-246-839-00	3.0k	1-246-849-00	20k	1-246-859-00	130k	1-246-869-00	910k	1-247-061-00
10	1-246-759-00	68	1-246-769-00	470	1-246-779-00	3.3k	1-246-789-00	22k	1-246-799-00	150k	1-246-809-00	1 M	1-247-053-00
11	1-246-820-00	75	1-246-830-00	510	1-246-840-00	3.6k	1-246-850-00	24k	1-246-860-00	160k	1-246-870-00		
12	1-246-760-00	82	1-246-770-00	560	1-246-780-00	3.9k	1-246-790-00	27k	1-246-800-00	180k	1-246-810-00		

Sony Corporation

© 1980

9-950-523-11

80K0545-1
Printed in Japan